

THE DIGITAL FINANCIAL SERVICES LANDSCAPE IN NIGERIA:

ENABLING MARKET CONDITIONS FOR PAY-AS-YOU-GO SOLAR

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PART A: THE PAYG SOLAR OPPORTUNITY

1. PAY-AS-YOU-GO SOLAR

The off-grid solar sector has experienced impressive growth over the past ten years. Currently, over a hundred companies in the industry now actively focus on solar home system distribution to rural off-grid consumers. The "mobile-enabled" pay-as-you-go (PAYG) business model has recently emerged as the "second wave of inclusive digital innovation", reaching a much broader range of low income, rural customers than traditional sales and distribution models. Building off the existing infrastructure of more mature East African mobile money deployments such as M-PESA, solar company pioneers have proven the concept, refined business models, and secured partnerships with mobile network operators (MNOs) for mobile money integration, often co-branding, marketing and distributing through a partner MNO's agent and shop networks.

Over the past five years, PAYG solar companies have sold more than 1.1 million solar home systems to customers worldwide.² However, this sales expansion has been largely concentrated in East Africa, representing approximately 70% of total sales volume in Africa and 77% of revenues.³

1.1 THE OFF-GRID SOLAR OPPORTUNITY IN NIGERIA

While the off-grid opportunity in Nigeria is significant, with over 75 million Nigerians currently without access to reliable energy, PAYG solar is still in its infancy. While Nigeria has a relatively high electrification rate, in comparison to the Sub-Saharan-African average, the grid is highly unstable and over 80% of Nigerians rely on generators for their primary or "back-up" source of energy. As a result, Nigerians and their businesses spend almost USD \$14 billion (N 5 trillion) annually on inefficient generation that is expensive (USD \$0.40/kWh or N140/kWh or more), of poor quality, noisy, and polluting. According to the Rural Electrification Agency (REA), "developing off-grid alternatives to complement the grid creates a USD \$9.2B/year (N3.2T/year) market opportunity for mini-grids and solar home systems that will save USD \$4.4B/year (N1.5T/year) for Nigerian homes and businesses."

The Nigerian Government, and the Rural Electrification Agency (REA) in particular, is strongly committed to providing universal access to reliable electricity power supply for rural communities. REA's work is primarily driven by five policy themes and a number of strategic objectives, outlined in Figure 1. Highlighted below are the policy themes directly relevant to any project or initiative aimed at 1) promoting the PAYG off-grid model as a viable business opportunity in Nigeria, 2) promoting financial inclusion, 3) and creating an enabling environment for digital financial service providers in Nigeria.

¹ Wim van der Beek, Goodwell Investments, at the Sankalp Africa Summit 2016.

² Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

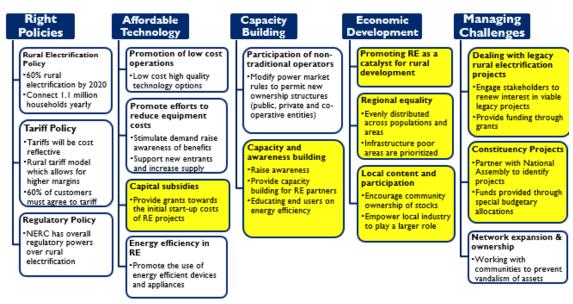
³ Global Off-Grid Lighting Association (GOGLA) (2016) Global off-grid Solar Market Report

⁴ GSMA Mobile for Development Utilities Programme (2016) Assessing the Opportunity for Pay-as-you-go Solar in Nigeria.

⁵ Rural Electrification Agency (RIA) (2017) *The Off-Grid Opportunity in Nigeria – Upscaling Minigrids for Least Cost and Timely Access to Electricity.*

⁶ Ibid.

Figure 1: REA Policy Themes and Objectives



Source: Adapted from REA (2017) The Off-Grid Opportunity in Nigeria

One particularly relevant REA project is the Energizing Economies Program (EEP), launched through REA's Special Projects and Renewables Department. The aim of the EEP is to power four large markets and major economic centers in Nigeria with clean and stable electricity. The initiative will provide offgrid solar power to traders and shop owners in Sabon Gari (Kano), Ariaria (Aba), Somolu Printing Community and Sura Shopping Complex (Lagos). The first phase was launched at the Sabon Gari Market in February 2018, and is an exciting demonstration of the possibility of REA's positive impact on off-grid economic marketplaces outside Abuja and Lagos urban centers. However, while the government tests new pilots, regulatory progress to support the digital financial services (DSF) market remains stalled, and PAYG off-grid solar companies struggle to innovate in order to survive in the midst of a highly fragmented DFS provider network.

As explored in this report, the Nigerian market is very different from other markets across sub-Saharan Africa, and mobile money solutions that work well in one market may not be the best option for Nigeria at this time. There is no single "silver bullet", and mobile money solutions should not be portrayed as the only "way to pay" or the ultimate solution to be replicated in every market. New alternative payment channels are being explored daily, such as the recent M-KOPA partnership with the MasterCard Foundation in Uganda, testing MasterCard's QR payment technology in a pay-as-you-go solar pilot program. The nuances of the DFS ecosystem need to be taken into consideration when assessing any new technology solution being deployed for off-grid solar application in Nigeria.

Before exploring the current state of the DFS market in Nigeria, it is necessary to gain an understanding of why off-grid solutions are critically important, and the different PAYG business models and payment methods currently being tested and deployed.

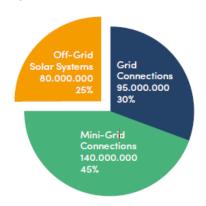
⁷ "FG Begins Off-Grid Electrification of Four Major Nigerian Markets", Okafor C, 2018.

⁸ Moloi S (2018) *Using QR Payment Technology for Pay-as-you-go Solar Power in Uganda* where it is stated that, "Masterpass QR, Mastercard's payment technology that M-KOPA will be piloting in Uganda for its solar products, is an open and interoperable technology will create a new payment channel for M-KOPA's pay-as-you-go customers outside for Kenya. It is expected that given the network of mobile network operators and banks using Masterpass QR, this will help M-KOPA to scale and grow across Africa without requiring additional technology investments."

1.2 WHY OFF-GRID SOLAR IS THE MOST COST-EFFECTIVE SOLUTION

The most cost-effective way to expand household electricity access varies widely across countries. However, the IEA concludes that 'for large rural populations that are distant from power grids, mini-grid and off-grid solar systems provide the most viable means of access to electricity". The IEA anticipates that 315 million people in rural areas will gain access to electricity by 2040, but that 25% of household electricity access needs to come from off-grid solar systems (Figure 2).

Figure 2: Most Cost-Effective Energy Technology Mix



As reported in the IEA Global Tracking Framework, for every 100,000 people with no electricity access, basic solar lighting could be delivered for approximately USD \$3 million while full grid connection with 23 hours supply would cost approximately USD \$150 million. When the cost of the extension of the national grid extension is prohibitive, mini-grids or standalone, off-grid solar systems provide a compelling complement to the existing grid.

Source: IEA (2017)

1.3 PAYG'S VALUE PROPOSITION: THE CUSTOMER PERSPECTIVE

PAYG off-grid solar solutions are designed to address the energy needs of those who are not connected to the national grid, typically live in rural areas, and often low-income. However, the benefits extend far beyond basic household lighting and energy access. As reported in GOGLA's recent demand-side study, *Escaping Darkness: Understanding Consumer Value in PAYGO Solar* (which included over 130 consumer household interviews with consumer households across East and West Africa), consumers were unambiguously clear that "the main reason they invested in a solar home system was to end darkness—literally and figuratively. Exploring purchase decisions, value assessments, and individual cash flow patterns before and after acquiring a solar home system, this study demonstrated that social isolation played a significant role in influencing purchase decisions. The ability to illuminate their surroundings and have enough electric power to use devices such as phones, television, and radio, provided enormous value. Instead of being considered luxury items, the highest value of televisions and radios was the exposure provided to the greater world, different cultures, and the opportunity to improve French and English language skills. ¹²

These solar home systems delivered reliable, high-quality, clean, overhead lighting, eliminated risks of electricity shocks common to substandard electricity connections, and pollution, burns, and house fires caused by candles and kerosene lamps. ¹³ Consumers indicated how important, even necessary, it was to know what was happening in current affairs, both locally and globally. Having a stable source of power

⁹ SE4ALL and World Bank ESMAP (2015) Beyond Connections: Energy Access Redefined

¹⁰ International Energy Agency and World Bank (2015) Global Tracking Framework

Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

¹² *Ibid*.

¹³ *Ibid*.

brought respondents a sense of pride, dignity and achievement, signifying a significant lifestyle change. However, a solar home system with the above appliances requires a household expenditure that would be inaccessible by customers in a lump sum payment, in which PAYG companies could provide purchasing options to make this purchase a reality.

1.4 BEYOND ENERGY ACCESS – SOCIO-ECONOMIC IMPACT

In addition to providing access to electricity, the additive benefits of off-grid solar are numerous, influencing both household income levels and larger country macroeconomics. These benefits include: 1) increased household savings; 2) increased national savings; 3) job creation; 4) access to financial services (including mobile financial services where permitted); 5) education, health, safety and wellbeing. 15

Increased household savings: The provision of basic solar lights to a household typically lead to the replacement of kerosene lamps, battery powered torches and candles, leading to cost savings of approximately 4% of total household income for those in the poorest quintile. ¹⁶ Recent research undertaken in rural Kenya found that on average, households spend about 3% of their income on lighting, rising to 8% (USD \$1.60 per month) for the poorest quintile. With the acquisition of a solar light, the average number of kerosene lamps in use drops from 2.2 to 1.3, and expenditure on energy drops by 40-60% (USD \$0.96 per month on average). Those households whose solar system also have phone-charging capability make additional savings (USD \$0.08 per month), as a result of being able to charge their phones for free. ¹⁷ According to Nigeria's Rural Electrification Agency (RIA), many rural households in Nigeria spend more than USD \$6/month (N 2,100/month) on kerosene or battery powered torches, a significant portion of household income, making a compelling case for solar home systems. ¹⁸

Increased national savings: Countries that import kerosene, batteries, torches, or candles have seen a positive impact on the balance of payments and on foreign exchange reserves as off-grid solar markets grow. An example provided by UNEP en.lighten from Kenya illustrates the potential impact on national savings. Kenya imports 853 million liters of kerosene, 464 million candles and 114 million batteries costing around USD \$896 million per year. This is the equivalent to 6.3 million barrels of crude oil energy. Adopting off-grid solar as an alternative could potentially save a significant portion of this current energy expenditure and reduce national kerosene costs, as this import is often heavily subsidized.

Job creation: The off-grid solar value chain creates far more jobs than the value chains for inefficient lighting technologies. These jobs are more likely to be in the formal economy, contributing to national tax revenues.²¹ UNEP research shows that the off-grid solar industry employs approximately 30 people per 10,000 people living in rural areas, compared to just one person per 10,000 people in the case of kerosene.²² Globally, the decentralized renewable energy industry, including both mini-grids and standalone solutions, is expected to directly employ over 4.5 million people by 2030.²³

¹⁴ Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

¹⁵ Global Off-Grid Lighting Association (2017) Providing Energy Access Through Off-Grid Solar: Guidance for Governments 16 Ibid.

ETH Zurich et al. (2017) The Economic Impact of Solar Lighting: Results from a Randomized Field Experiment in Rural Kenya
 Rural Electrification Agency (RIA) (2017) The Off-Grid Opportunity in Nigeria.

Global Off-Grid Lighting Association (2017) Providing Energy Access Through Off-Grid Solar: Guidance for Governments

²⁰ http://map.enlighten-initiative.org
21 Global Off-Grid Lighting Association (2017) Providing Energy Access Through Off-Grid Solar: Guidance for Governments

²² UNEP (2014) Light and Livelihood: A Bright Outlook for Employment in the Transition from Fuel-Based Lighting to Electrical Alternatives ²³ IRENA (2016) Renewable Energy and Jobs

Access to financial services (including mobile financial services): PAYG solar technologies and business models enable customers to access higher levels of energy service by paying over time, typically between 1-5 years. In countries such as Kenya, Ghana and Tanzania where MNO's are permitted to issue mobile money and provide mobile money services (including bill payments) themselves, mobile technologies have been used to underpin the mobile-enabled PAYG model in three primary ways: 1) by enabling customers or agents to make payments via mobile money; 2) by enabling companies to control assets and services remotely, using machine to machine (M2M) connectivity²⁴ and 3) by enabling communication between companies, agents and customers through mobile, SMS or apps.²⁵

Recent GSMA research shows that that mobile-enabled PAYG solutions have accelerated the adoption of mobile money through 1) accelerated growth of agent networks in off-grid areas: 2) increased customer acquisition volumes; 3) PAYG agent-facilitated customer literacy training in digital finance concepts, and 2) increased frequency of account activity. Mobile-enabled PAYG solutions have also enabled companies to collect valuable data on customer power usage, consumption patterns, and proof of payment to build credit history for previously unbanked customers, PAYG-enabled credit scoring is now making it possible for customers with no formal financial history to access loans, savings and credit products.²⁶

Education, health, safety and wellbeing: The educational benefits of SHS ownership is clear, as access to clean, safe lighting allows students to study longer after school, with schools report improvements in performance, attendance and motivation by children from SHS-powered households. In rural areas of Kenya, a recent SolarAid study reported that better school lighting would help attract high quality teacher labor forces to remote areas, a longstanding challenge in rural school systems. Health improvements are also well documented with reduced household use of kerosene, including a reduction in coughing, flu-like symptoms, eye irritation and respiratory illness.²⁷ Solar lights also reduce the risk of fire and accidents and improve safety and security. With safer and brighter homes, children studying better at school and with more income available, families have a better quality of life. 28 The danger of air pollution-induced health risks as a result of generator use in Nigeria is well documented.

²⁴ See GSMA (2013) Sustainable Energy & Water Access through M2M Connectivity

²⁵ Global Off-Grid Lighting Association (2017) Providing Energy Access Through Off-Grid Solar: Guidance for Governments

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

2. PAYG BUSINESS MODELS

At a basic level, the very nature of a PAYG solar home system sale requires regular interactions between the buyer and seller, and it is the efficiency of these interactions that determines the scalability and profitability of a given business model. While the PAYG model does not depend solely on electronic payments (cash is an acceptable option), the efficiency, profitability and accountability of the system are greatly enhanced when customers are able to pay remotely and electronically and do not need to visit a shop or energy agent to do so. When electronic payments are fully leveraged in the PAYG business model, the value for both providers and consumers is strengthened, solving three key needs: transparency, affordability, and scalability.²⁹

First, electronic payments provide a much greater degree of **transparency**. Providers are able to account for revenue in real-time, accurately track repayment rates, and maintain ongoing oversight and communication with their customers. Cash transactions in rural and remote areas have an extremely high opportunity cost. Customers who pay for their energy in cash often have to travel long distances to get to a shop or agent, or companies must establish payment locations across a large geographic area and pass those costs on to customers.³⁰ Paying small amounts electronically without having to travel vast distances improves **affordability**.

The most important need solved through the use of electronic payments is **scalability**. When PAYG payments are made in cash, companies must establish an entire cash management system. Sales agents must be supplemented by collections agents, or perform both duties themselves. In those situations, managing existing customers may limit the ability to identify new ones. When mobile money is used for repayments, sales agents focus on originating new customers, while the company concentrates on product quality and customer service. Mobile money agents still have to exist in areas where the energy poor live, but the cost of that infrastructure is shared in part with other services that mobile money facilitates, such as domestic money transfers, airtime sales, and bill payment. Scalable, distributed energy becomes a more achievable goal.³¹

The flexibility of a PAYG payment plan allows a solar company to structure end-user customer transactions in a way that lowers the entry barrier to SHS ownership and spreads payments over time, generating low-risk revenue and provides greater financial access for households with fluctuating, often seasonal income.³² This section presents an overview of the most critical factors influencing the success of a PAYG business model.

2.1 LEASE-TO-OWN VS. ENERGY-AS-A-SERVICE

PAYG solar companies primarily deploy two types of mobile-enabled end-customer transactions: energy-as-a-service and rent-to-own models, both of which influence end-user pricing and accessibility. In an energy-as-a-service transaction, customers pay an ongoing usage fee similar to a traditional utility model. Without a fixed term, the financial risk to potential customers is low as they are typically able to discontinue the service at any time with minimal penalty. This model addresses the potential consumer

²⁹ Waldron D and Faz X (2016) Digitally Financed Energy: How Off-Grid Solar Providers Leverage Digital Payments and Drive Financial Inclusion.

³⁰ Ibid.

³¹ *Ibid*.

³² CGAP (2014) Access to Energy via Digital Finance: Overview of Models and Prospects for Innovation

fear of technology obsolescence, as system upgrades and appliance additions (additional battery capacity, solar panels, lights, TVs, and radio) are available without the need to first pay off the original equipment.

In a rent-to-own or lease transaction, an initial deposit is required upon sale, with the remaining outstanding balance paid over time through prepaid SHS usage, with ownership of the asset transferred to the end-customer at the end of the payment plan. Legal ownership of the asset typically lies with the PAYG company until the end-customer has completed the leasing term and "earns" the right to own the system- sometimes through a closing payment. In many instances, this rent-to-own transaction represents the first formal payment history established by an end-customer. This requires the PAYG solar company to build out full in-house credit/finance functionality, complete with risk assessment and portfolio management staff and processes, adding costs that may ultimately need to be passed on to the end-customer. Because this model requires an explicit repayment term, companies face the difficult challenge of determining a price and term such that it covers their costs and is competitive with existing energy alternatives.

Time-based vs. usage-based pricing models

Pricing models are based on either time installments or usage. Under a time-based model, end-customers use the solar device and related appliances as much or as little as they want in a given time period, within the limitations of the product's battery capacity. While pricing in terms of time increments is generally easier for customers to understand and manage instead of in energy units, a consumer is also charged for a day of use even if they do not use the device at all in a particular day. Prepaid balances may be more challenging for customers to manage under a usage-based pricing model, but recent improvements in metering technology and product user interfaces have made this option more accessible, although customers have shown to be more conservative in energy use than they would under a time-based pricing model.³⁵

The importance of appropriate end-user financing terms

Overall, the key objectives of all PAYG solar companies is to deliver energy at a price that is both competitive with alternatives and accessible to a range of consumer income levels. The financing terms and per-unit pricing are often designed to provide sufficient company revenue while also requiring lower customer monthly expenditures than existing alternatives (such as kerosene and mobile phone charging). 36

In Nigeria's current energy market, low-income households may not initially reduce their energy spending in the short term through the purchase of a solar home system, as less than 10% of households on average reduce energy spending within the first year of leasing or ownership or leasing. However, with longer PAYG loan tenors, households can save as much as 300% of prior monthly energy expenditures over the lifetime as the SHS. When companies provide affordable, consumer-focused lease-to-own rates and ensure income-appropriate purchasing decisions, PAYG business models can offer significant financial inclusion and cost-savings benefits.

2.2 PAYG PAYMENT METHODS

PAYG solar providers employ a number of approaches to enable payments for their product or service. Partnering with an established mobile money network (as permissible by country regulations) allows for

³³ CGAP (2017) Exploring Opportunities for PAYG Solar as a Driver of Financial Inclusion

³⁴ CGAP (2014) Access to Energy via Digital Finance: Overview of Models and Prospects for Innovation.

³⁵ *Ibid.*

³⁶ Ibid

³⁷ Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

nearly seamless product activation with no agent interaction after an initial SHS sale. Several PAYG companies utilize a scratch card model that requires management of an agent network for distribution, but isn't dependent on mobile connectivity. Other companies employ mobile airtime as a "virtual currency", allowing users to pay for service using mobile phone credit. Partial PAYG models employ specialized agents to accept cash payments, and then activate products through a cable, Bluetooth, or a manually entered SMS code.³⁸

2.2.1 Full connectivity model – M2M connectivity and mobile money

In countries such as Kenya where the mobile network and mobile money ecosystems (including agent networks and interoperability) are well developed, off-grid solar solution providers are making extensive use of machine-to-machine (M2M) solutions coupled with the development of mobile micro-payments to bring energy solutions to previously underserved areas. The emergence of new business models leveraging GSM connectivity for remote operation and monitoring is already being used in a number of markets to assist people to gain access to more affordable and sustainable basic life services. The development of "pay-as-you-go" solutions combining the use of M2M technology to mobile money services, provides a microfinance element where the credit on a user's account can be checked remotely, enabling low-income consumers access to normally prohibitively expensive goods and services.³⁹

The extension of mobile coverage to rural areas has helped to catalyze the growth of the mobile market, yet reliability and latency challenges still extensively hinder PAYG market expansion. ⁴⁰ While mobile network coverage in Nigeria is sufficient in most urban areas, stakeholders state that network coverage in most rural areas remains a challenge. ⁴¹

	Côte d'Ivoire	GHANA	KENYA	Nigeria	TANZANIA
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Table 1: Country Contexts for Mobile Connectivity, Mobile Money, and Electricity Access

Population (WDI 2016)	23,695,919	28,206,728	48,461,567	185,989,640	55,572,201
Rural population (WDI 2016)	10,694,205	12,782,725	35,834,906	95,604,255	37,613,489
Density (pop/km2) (WDI 2016)	74.51	123.96	85.14	204.21	62.73
Number of persons with access to electricity (WDI 2016)	15.2 million	22.3 million	27.1 million	110.3 million	18.2 million
% Access to electricity (WDI 2016)	64.3	79.3	56	59.3	32.8
Financial institution account (% age 15+) (Global Findex 2017)	14.76	42.28	55.71	39.40	20.97
Debit card ownership (% age 15+) (Findex 2017)	7.07	18.56	37.55	31.55	13.26

³⁸ Alstone P, Gershenson D, Turman-Bryant N, Kammen D and Jacobson A (2015) Off-Grid Power and Connectivity Pay-as-you-go Financing and Digital Supply Chains for Pico-Solar.

Nique M and Arab F (2013) Sustainable Energy & Water Access through M2M Connectivity.

 $^{^{\}rm 40}$ Nique M and Arab F (2013) Sustainable Energy & Water Access through M2M Connectivity.

Stanbic Bank stated that in several rural areas the lack of MNO networks is a problem. As there are no masts in these areas, residents are completely reliant on cash for day-to-day transactions.

Mobile Money Account (% age 15+) (Findex 2017)	34.05	38.94	72.93	5.60	38.53
Paid utility bills in the past year (% age 15+)	22.70	34.88	45.12	31.64	25.45
Paid utility bills: using an account (% age 15+) (Findex 2017)	1.5	4.9	12.3	5.5	3.8
Paid utility bills: using a mobile phone (Findex 2017)	9.4	8.07	37.1	1.2	15.5
Used a mobile phone or the internet to access an account (Findex 2017)	33.29	35.50	71.80	7.71	36.55
Used a mobile phone / internet to check account balance (Findex 2017)	5.52	10.33	36.15	10.92	7.74
Number of Mobile Operators	4	8	4	9	8
Connections – Unique Subscribers (GSMA) Q4 2017	32.7 million	34.7 million	41.0 million	146.8 million	40.1 million
% Prepaid (GSMA) Q4 2017	99	99	97	96	97
% Mobile Broadband ⁴² (GSMA) Q4 2017	48	56	36	42	37
SIM Penetration (%) (GSMA) Q4 2017	133	119	81	76	69

2.2.1.1 Country Market Reference Case: The Impact of Mobile Money Services in Kenya

There is no doubt that the advent of mobile money has revolutionized the lives of millions in several developing countries. The most obvious example of a successful scheme is M-PESA, the mobile money transfer service launched by Safaricom in 2007, growing from 1.1 million accounts in 2007 to 35.5 million accounts in 2017. Kenya's mobile money agent network has also grown exponentially as a result, from approximately 1300 agents nationwide to over 165,000 agents in 2017.

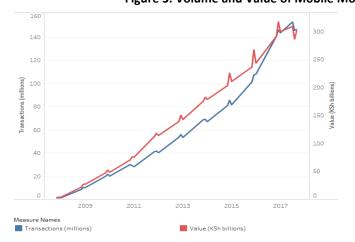


Figure 3: Volume and Value of Mobile Money Transactions (2007 – 2017)

Source: Central Bank of Kenya (2017)

⁴² Includes 3G and 4G mobile technologies.

Currently, Nigeria has neither this level of network coverage, customer base and transaction volumes, nor established agent network. This must be kept in mind as even if the mobile money market was opened up to MNOs at this time, it is unlikely that this would be the "silver bullet" required to kick-start the PAYG solar market without investment into strong agent network expansion.

Safaricom partnered with M-KOPA Solar in 2011 to launch a "full connectivity" PAYG solar model (Figure 4 below), an exceptional example of a strong partnership that many MNOs are currently seeking, in order to further expand and stimulate their customer base in underserved and rural locations, improve average revenue per user (ARPU), and reduce churn. However, it is extremely important to clarify that Safaricom's success was largely a result of a lack of regulatory restrictions at the time of expansion. MKOPA's "full connectivity" model is outlined in Figure 4 below.

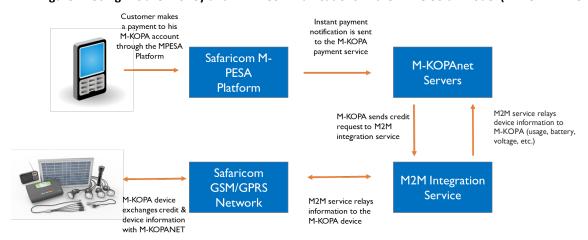


Figure 4: Using Mobile Money and M2M Communications in the PAYG Solar Model (M-KOPA in Kenya)

Source: GSMA (2017)

Many argue that mobile money has been successful in Kenya due to the fact that it is "telecom-led". However, it was largely a lack of regulatory restrictions at the time of M-PESA's launch which greatly helped facilitate rapid market innovation and Safaricom's dominance, an unusual country condition for a new digital financial services provider. This success case in Kenya has led to many other African countries attempting to replicate the phenomenon with varying success. Regulatory barriers, a lack of interoperability between service providers, and pushback from formal financial institutions (especially incumbent commercial banks against telecoms and other non-bank e-money issuers encroaching on their business) has largely restricted growth in other countries.

2.2.1.2 The full connectivity "on-network" model

M-KOPA is a clear example of an "on-network" model, in which a software platform integrates with a mobile money platform to receive payments, update customer accounts, and deliver proof of payment data, that is transferred to the solar device to unlock prepaid usage, often via direct data or SMS

⁴³ See GSMA (2017) *Mobile for Development Utilities Lessons from the Use of Mobile in Utility Pay-as-you-go Models*, where it is noted further that, "PAYG solar providers operating in Sub-Saharan Africa are becoming some of the largest mobile money bill pay recipients: Fenix International was the third in Uganda bill pay customers to mobile operators, while PEG in Ghana has become the biggest business for MTN bill pay services, outside of key government services and urban utilities. With an estimated 1.6 million mobile money transactions generated per month (September 2016), PAYG solar can also generate significant revenues in transaction fees for mobile operators operating in low ARPU markets.

⁴⁴ Llewellyn-Jones L (2016) Why Mobile Money Transformed Kenya, but Failed to Take off in Nigeria.

messages. With this model, companies register to receive a bill pay number and access the Instant Payment Notification (IPN) data. Through APIs over standard protocols (e.g. HTTP/HTTPS), PAYG providers are able to seamlessly integrate their back-end customer relationship management system with a mobile money provider's IPN. ⁴⁵ Unfortunately, unless compelled to do so by regulation mandating interoperability, few MNOs voluntarily open up their APIs. Without an open API, PAYG providers need to complete a custom technical integration with each mobile money platform they support. In cases where resources are constrained, this can take several months, several in-person visits and requires significant technical resources. ⁴⁶

In this model, proof of payment confirmation is sent directly to the SHS via the mobile network to unlock services, and the PAYG companies also receives product performance and customer usage data direct from each SHS. Once the proof-of-payment is transferred to the PAYG solar device through a direct message to the product's GSM chip, technology within the product regulates the usage. This is typically done by a circuit board within the solar device with software designed by the PAYG solar company to govern how and when electricity is sent from the battery to the end appliances, such as the lights and mobile phone charging port. If this product-embedded PAYG hardware does not receive a proof-of-payment message, electricity is not sent to the end appliances. He NoPA Solar, Mobisol, and Econet Solar are examples of companies that deploy PAYG products with networked hardware via embedded M2M modules.

This technology approach typically requires a close partnership with MNOs as each device requires a registered SIM card. These on-network PAYG solar software platforms integrate with partner MNOs or mobile money platforms to accept and process incoming payments from end-customers and send messages directly to solar devices via the mobile network. Networked hardware can track information such as battery and panel status and customer usage, and it can identify when tampering occurs. Onnetwork PAYG solar companies often leverage MNO partner brands, airtime agents, authorized dealers, and product distribution channels.

Table 2: On-Network Features and Characteristics

	On-Network
Summary	Solar products are connected directly to the cellular network via embedded M2M module + SIM. Customers pay via mobile money, software sends a message directly to the solar device to "unlock" prepaid services via the cellular network. Typically requires a tight partnership with a MNO for SIM cards and access to discounted data/SMS/mobile money.
Examples	Econet Solar (Zimbabwe); M-KOPA Solar (Kenya, Uganda); Mobisol (Kenya, Rwanda, Tanzania)
Advantages	Ability to communicate with solar devices in real-time, accessing data on usage/performance. Remotely disable services anytime. If partnered with an MNO, can leverage its agent network and product distribution channels.
Disadvantages	Requires some formal partnership with MNOs. Somewhat limited in where you can sell to areas with reliable cellular coverage; may require customers to carry devices to areas with stronger cellular signal to sync/update. Often limited to selling in countries with high mobile money penetration. M2M technology development cycle is typically longer and more expensive than off-network.

Source: CGAP (2014)

 $^{^{45}}$ GSMA (2016) Mobile for Development Utilities Lumos: Pay-as-you-go solar in Nigeria with MTN.

⁴⁰Ibid.

⁴⁷ CGAP (2014) Access to Energy via Digital Finance: Overview of Models and Prospects for Innovation.

2.2.1.3 Bill payments vs. merchant payments

There are a number of additional strategic decisions that need to be made by the PAYG solar provider, several of which are based on product design and subject to negotiation with the MNO partner. In sophisticated mobile money markets such as Kenya, providers are able to choose between bill payments or merchant payments. Each of these options is priced and works differently.

Bill payments (many-to-one): Bill payment is a facility that allows a corporate entity (the biller)- in this case the PAYG solar provider- to receive regular payments from a broad base of users remotely. It is effectively a structured collection of individual wallet-based or over the counter P2P payments. Bill payments however have the following additional elements:⁴⁸

- *High balance and transaction limits*: The biller needs a collection account with higher balance and transactional limits, to accommodate potentially high transaction volumes. The biller will accordingly need to be subjected to more stringent Know Your Customer (KYC) requirements.
- *Required payor identification*: Payors need to be able to state the number of the account they have with the biller as the biller may not be able to identify them based on their phone numbers alone. Therefore, bill payment services usually include a mandatory data field in which customers are asked to type in their account bill number or another identifier. 49
- *Easy biller selection*: Customers need to be able to identify the various billers they need to pay bills to. Providers usually offer three facilities: a) short codes for billers; b) direct placement of biller names on the bill payment menu, so that users can just scroll down a list and select them without having to enter any biller code; and c) possibility for users to store or define biller 'favorites,' so that they don't need to enter the biller and account data each time they want to pay a bill.
- *Charging flexibility*: In some cases, billers absorb the cost of bill payment in order to encourage their customers to pay bills remotely. In other cases, they translate that cost entirely to bill payers. Many mobile money systems include a variety of charging options based on different cost splits between the biller and the payer.
- *Biller account manageability*: Billers require better tools to view and manage the transaction flow they receive. Accordingly, they are often given a dedicated web access with a graphical user interface, which enables them to view their transactions and manage their collection account.

However, the costs for bill payments can be substantial, depending on the country market approved providers.⁵⁰

Merchant payments (P2B in store): Merchant payments are a special type of P2P payment. Merchant payments accumulate in a collection account, and usually require higher volume transaction limits and web access to be able to view transaction flows and manage collection accounts. The merchant payment process is transacted via the following methods:

• *Push payment*: All standard P2P transactions are based on the push payment model. It is the sender who originates the transaction and enters all transaction details. Applying this model to a merchant setting requires that at the till the buyer sets up the payment on his/her mobile phone by identifying the merchant (the destination of the money) and entering the amount of the purchase. Merchants are typically given special merchant numbers distinct from their phone numbers that they display at the till.

⁴⁸ Mas I and Almazán M (2014) *Product Innovations on Mobile Money*.

Incomplete or mistyped account details are a common source of problems on mobile bill payments.

Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

- Pull payment: Debit card and prepaid card merchant payments are based on a payment pull. It is the merchant (i.e. the recipient) who requests the transaction and enters the transaction details. Pull payments shift the work to the merchant as merchants are presumed to have a more convenient device such as a Point of Sale (PoS) and to be better trained and experienced in conducting e-payments. Several MNOs have introduced pull based merchant payments. For example, in the mobile-only model implemented by Tigo Money in Paraguay, "the merchant enters the transaction details on her terminal (the client's phone number and the amount of the purchase). The provider then pushes a payment confirmation request to the buyer's handset via a USSD message and the customer completes the transaction by entering her PIN. In this setup, merchants do not need to be issued with merchant numbers because it is now the store that identifies the shopper through his/her phone.
- Hybrid model using one time password (OTPs): Mobile money systems employing a hybrid system that requires customers to first request a one-time Pin (OTP) through their mobile phone.

Regarding merchant payment options, generally 1% of the transaction value is charged, which is typically borne by the payment recipient. However, this option does not allow a customer to enter an account number, as PAYG customers must send the money from their own SIM card to enable the provider to link each payment to the correct customer account. This makes over-the-counter payments or direct remitter payments very difficult, and near impossible for rural customers without easy access to a payment hub.⁵¹

2.2.1.4 Payment performance is not only a matter of sophisticated technology

The full connectivity (on-network) M2M mobile money solution used by M-KOPA in Kenya is in no doubt a sophisticated and seamless technological payment arrangement designed to make daily or monthly payments as easy as possible for customers. However, payment performance is not only influenced by technology and affordability, but directly influenced by payment term flexibility, customer cash flow pattern alignment with PAYG payment requirements, payment contract literacy, and other payment logistics.⁵²

Unfortunately, it is often poorly drafted contracts with payment terms insufficiently explained to customers that incurs a default on payment, not a customer's inability to pay. All too often, agents are dishonest about the length of a loan, consequences of nonpayment, capacity limitations of the device, or what they perceived as less-attractive contract terms, while other agents were found to simply be in too much of a hurry and or assume that the contract terms are well understood, causing customer distrust. Providers therefore need to ensure that contracts are drafted in simple and plain language and that contractual terms are explained to customers in detail. Low literacy levels, common in more remote communities, exacerbates disclosure challenges, leaving customers vulnerable to agents driven by commission-based sales models.

Payment logistics can also be a significant hurdle for customers, and can often be a major reason why customers fell behind or halt payments entirely. This challenge is particularly prevalent in West African communities where mobile money agents were geographically disparate and not familiar enough with payment processes to sufficiently assist customers, where customers do not have sufficient network coverage in their homes; and where payment procedures are complicated and network-specific, due to a lack of interoperability.

⁵² Zollmann J, Waldron D, Sotiriou A, and Gachoka A (2017) Escaping Darkness Understanding Consumer Value in PAYGO Solar.

Across West Africa, very few customers often have their own mobile wallets (mobile money account). If customers have used mobile money before purchasing a solar home system, they have often not previously relied on agents to perform transactions for them. These challenges mean that customers, sales agents/technicians, and mobile money agents often need to craft "workaround solutions", in which sales agents and technicians collect cash from customers and make payments themselves, causing account credit delays and introducing increased opportunity for theft. Issues with misplaced or lost SIMs, system failures and absent agents are also common. PAYG solar agents have also been known to outsource collections to informal collectors who are trained to make mobile payments for customers, charging the customer an arbitrary fee for the service, further clouding the payment model. However, the greatest challenge to this model is a lack of sufficient agent coverage, not customer dissatisfaction with their existing agent. Many customers often need to travel long distances to find the nearest mobile money agent or solar company office, leading to late or missed payments.

2.2.2 THE PREPAID CREDIT AGENT-BASED MODEL

In countries where mobile money has not yet been launched, has little traction or where regulatory barriers are prohibitive, PAYG solar companies often use an "energy credit" agent model. ⁵⁴ In this model, customers pay cash to an agent appointed by the PAYG solar company to vend prepaid energy credits in the form of unique 8–12 digit numeric codes that are later entered into the solar product for authorization. Table 3 below provides two examples of the prepaid energy credit model (prepaid scratch cards and prepaid recharge credit).

Table 3: Examples of Prepaid Energy Credit Models

Prepaid Energy Scratch Cards	Prepaid Energy "Recharge"
Technology provider: Azuri Technologies	Technology provider: Simpa Networks India
Country: East and West Africa	Country: India
Description: Print and distribute energy credit scratch cards, similar to prepaid mobile airtime scratch cards used by most African MNOs, which are sold to end-customers by local agents.	Description: Sell prepaid energy credits through appointed agents, but deploys a "Recharge" model without scratch cards—a common way to purchase and process prepaid airtime in India.
G 177 CORESTA DE SATOR DE SATO	NOKIA 123 Retil Amount 222 UK Clear
Customers scratch a panel on the back of each scratch card to reveal a unique numeric code. Customer sends scratch card code to Azuri's software via SMS along with the product/customer ID. Azuri's software platform verifies the initial code and product/customer ID. Azuri's software generates a new single-use unlock/usage code, which is sent back to the end-customer's registered mobile number via SMS. Customer then enters the final numeric usage code into the solar	Microenterprise registers as a Simpa energy credit agent, registering his/her name, address, mobile number in Simpa's software. Simpa Agents buy a bundle of prepaid energy credits from Simpa via local bank deposit. End-customers pay cash to the agent. Agent sends an SMS to Simpa with the end-customer's unique ID, the agent's ID, and payment data. Simpa's software validates the transaction based on the customer and agent's registered data, and sends a unique, single-use use numeric code back to the end-customer via SMS.

⁵³ Customers in the study who depended on individuals to process their payments ran into problems when they traveled or when the individual was not available.

⁵⁴ CGAP (2014) Access to Energy via Digital Finance: Overview of Models and Prospects for Innovation

The majority of current PAYG solar products on the market today use off-network hardware. Most PAYG solar products deploying off-network hardware typically include an embedded microcontroller with one or more electrical switches to enable/disable usage based on entry of a valid 10–12 digit "unlock/usage" code that customers manually enter into the device through a product-integrated keypad (Azuri Technologies, Off-Grid Electric, Quetsol, Simpa Networks, Sun Transfer) or a handheld remote control unit with short-range infrared (Fenix International, Lumeter).

Table 4: Off-Network Features and Characteristics

	Off-Network
Summary	PAYG hardware does not connect with the GSM network. Customers pay cash to appointed agents for prepaid energy voucher/credit/scratch card, which is validated via SMS. Software generates unique usage code manually entered into solar device. Does not require a formal relationship with an MNO.
Examples	Azuri Technologies (East and West Africa) Off-Grid:Electric (Tanzania) Quetsol (Guatemala) Simpa Networks (India) Sun Transfer (Ethiopia, Kenya)
Advantages	Can be deployed in areas where end-customers do not have cellular coverage. Can be sold in markets without active mobile money services. Off-network PAYG technology development cycle is often shorter and lower cost than on-network. Not tied to a particular MNO; higher degree of autonomy in designing customer transaction and distribution.
Disadvantages	Lack of direct connectivity with solar devices makes it difficult to obtain real-time usage/ performance data and identify theft or tampering. Typically collect this information in-person at customer's premises, adding transaction costs. Unable to disable energy services in real-time Often requires building out a proprietary agent network for vending prepaid energy credits/vouchers/scratch cards.

Country Market Reference Case: A Mobile Operator-Led PAYG Solar Model in Pakistan

An extremely interesting case study documenting the testing of two different mobile technology options for PAYG solar was published by GSMA on Easypaisa, the first and largest digital financial services provider in Pakistan, in partnership with Telenor Pakistan and Telenor Microfinance Bank. The project aimed to trial a mobile operator-led solar service that leveraged key MNO assets such as the mobile data network, mobile money service, distribution network, and knowledge of customers' historical mobile usage. historical mobile usage.

⁵⁵ GSMA (2017) Easypaisa: A Mobile Operator-led Solar PAYG Model for Pakistan.

The expected learnings for the broader pay-as-you-go solar sector, as defined by Easypaisa at the outset of the project were: 1) the effect that mobile-enabled PAYG has on increasing the affordability of solar energy solutions; 2) customer usage of mobile money wallet against over-the-counter (OTC) transactions; 3) impact of increased access to solar energy on the quality of life for off-grid communities; and 4) whether GSM recharge history can be a reliable parameter in credit rating.

The project tested both GSM-connected SHSs and offline SHSs with code-based timeout options. ⁵⁷ Interestingly, GSM connectivity for SHSs was dropped from the project scope due to its high cost, complexity and inconsistent mobile coverage in some areas. Easypaisa partnered with two vendors, Roshan Energy in Sindh and Brighterlite Pakistan in Punjab, KPK and Sindh, to test offline SHS with code-based timeout technology and two PAYG business models: 1) lease-to-own and 2) rental or energy-as-a-service. Roshan and Brighterlite leveraged Easypaisa's mobile money platform and agent network for payment collection as well as for distribution. Easypaisa developed a credit scoring algorithm to identify credit worthy customers. The PAYG payment process is described (Table 5) and depicted in Figure 5 below.

Table 5: The Easypaisa Payment Process

1	When the SHS is nearly out of credit, the SHS vendor sends reminders to the customer, via both SMS and calls.	5	The SHS vendor's server generates a code and returns it to Easypaisa.
2	The customer either uses his own Easypaisa account to make a payment or more commonly pays cash to an Easypaisa agent who makes the payment on the customer's behalf.	6	The customer enters the code into the SHS and unlocks it for the next time period.
3	Easypaisa credits the SHS vendor's account.	7	The customer receives an SMS acknowledgement from Easypaisa along with the code to unlock the system.
4	Easypaisa forwards the payment information including customer identification and payment amount of payment to SHS vendor's server.	8	The customer enters the code into the SHS and unlocks it for the next time period.

Figure 5: Easypaisa's PAYG process

Initially, Brighterlite payments could only be done by entering the corresponding merchant ID manually. Eventually, a dedicated menu option (USSD) was added, avoiding the need for the manual entry of a merchant ID number. Table 6 provides a description of Easypaisa's operations for its core business components.

⁵⁷ Offline version for PAYG where the SHS autonomously shuts off after the prepaid credit expires. Credit can be added to the SHS by making a payment and keying in the code received over SMS.

Table 6: Easypaisa's operations for core business components

Business component	Structure and strategies
Sales	Sales & Distribution: Network consists of 300 franchisees that work directly with Telenor and 75,000+ agents that work with these franchisees. There is a 20-80 split in commissions between franchisees and agents to keep both parties motivated. Easypaisa provides branding and training to nearly all agents. This includes point of sale material, signage, and campaigns. A total of 10 franchisees with 200 agents participated in the SHS project. Vendor Engagement: Vendor hires Easypaisa franchisee/agents as franchisee/agents. If no Easypaisa franchisee/agent is willing to join the vendor network in a specific territory, or if there are no Easypaisa franchisees/agents available, then vendor finds other interested parties. Easypaisa provides technical and sales training to their franchisees/agents. Vendor-appointed salespeople visit door to door to introduce the products
Payment collection	Most customers pay for energy at the nearby Easypaisa agent (over the counter). Some customers use Easypaisa mobile accounts so they can make payments directly, anytime, anywhere. SHSs are recovered from customers after two months of inactivity
Distribution	Roshan established its central distribution and service center in Karachi. Brighterlite established their central distribution and service center in Islamabad. Both distribution centers in turn work with Easypaisa to serve their designated markets and manage inventory across the franchisees and agents.
Service	Installation and maintenance: Brighterlite agent installs the SHS at customer premises. Customers call Brighterlite helpline in case they need support. Call center staff triages the problem and assigns field support staff to visit the customer premises, if necessary. Warranties: Brighterlite maintains, repairs or replaces modules, batteries, controllers and LED lamps free of charge if they are no longer functional after normal and proper use. Other appliances like fans and radios that are not physically damaged, but have stopped operating, are replaced for free during the first 12 months. Roshan offers two-year after-sales service and six-month warranty on the bulbs and the battery.

The results of this pilot are very informative and must be kept in mind as more SHS providers enter the Nigerian market and potentially partner with MNOs in future agreements.

Easypaisa agents found they had difficulty effectively selling the SHSs, due to initial expectations that agents would be the primary SHS brand ambassadors. Easypaisa branded retail outlets with point of sale material and signage and also trained the agents. These agents were expected to not only use the SHS for their shops, but to also sell mobile phone recharging service to their community, generating an additional source of income that should offset the SHS's recharge cost. However although agents did install SHS at their shops, they did not properly showcase them to the customer. Reasons for this include the availability of alternative on-grid power (even if limited to a few hours a day), and agents being secretive to protect their new source of income.

Despite a push to have customers adopt mobile wallets, OTC remains popular, especially outside urban centers. Easypaisa tried to improve the adoption of wallets among customers of the SHSs by developing a new mobile app that enhanced usability. However, there was limited uptake due to a relatively low smartphone penetration in the target segment. The lack of reliable mobile coverage is another factor that dampens the uptake of mobile wallets outside urban centers.

PAYG payments increase Easypaisa agents' business: Easypaisa was meant to be the exclusive payment channels for both vendors. While Brighterlite customers paid exclusively via Easypaisa, close to one-quarter of payments to Roshan were made by cash to field officers if they happen to be available at the time of payment. Thanks to solar payments, Easypaisa agents increased their transaction volumes significantly. In underserved urban areas, one Easypaisa agent saw an increase from 3-4 money transfer transactions per day to 18-20 transactions per day. Moreover, in rural off-grid areas, Easypaisa customers

typically use the service only to receive money. Solar payments add another transaction category for this user segment.

Mobile operator sales channel synergy: vending airtime, providing mobile money services and selling SHS are three very different activities. This case study demonstrated the perils of assuming that airtime vendors can be easily transformed into agents with little or no additional input. Sales of SHSs require a different skillset than sales of airtime or servicing a mobile money customer: The business of selling SHSs significantly differs from that of selling mobile products from a number of perspectives.

To sell a SHS, agents need to actively market the product and push through a sale: When selling mobile products, agents do not need to expend much effort as customers generally come to their shops looking to purchase airtime or send mobile money. To sell a SHS, agents need to actively market the product and push through a sale. Above The Line (ATL) marketing is seldom used for this type of product given its cost. This lack of ATL marketing means that there is often no clear brand recognition or notion of a market leader that customers can request. Agents therefore have to spend time creating demand and explaining the product and how it works, as opposed to servicing ready demand for airtime or mobile money products. Second, given the relative newness of SHS products, customers are unlikely to naturally gravitate to an airtime vendor or mobile money agent to purchase and energy product. They are more likely to search for such products in a general dealer or hardware store. Third, in several cases, the agent is responsible to install and wire the SHS at the customer premises. As these customers are in off-grid areas that often also lack mobile coverage, their homes are often far from the Easypaisa agent shop and thus covering the "last-mile" requires time and effort. Finally, a different skill set is required of agent resources to: 1) have the requisite know-how for SHS installations; 2) provide after-sales service and maintenance, in some cases including the removal of the systems; and 3) follow up on regular payments.

2.2.3 THE USE OF AIRTIME AS A PREPAID CREDIT MODEL

As the Central Bank of Nigeria's (CBNs) regulatory framework only allows for two models of mobile financial services- bank led and non-bank led- and specifically limits the role of mobile operators, mobile money may not currently be issued by MNOs to be used for either bill payments or merchant payments. In order to get around this restriction, MNOs have approved PAYG solar companies as a Value Added Service (VAS) vendor. This allows a PAYG solar company to provide pre-paid energy services through the purchase of airtime.

The Lumos pay-as-you-go solar service is the most common model, enabled by machine-to-machine (M2M) connectivity and billing integration between Lumos' back-end system and the mobile operator's real-time billing platform. A SIM card embedded in the solar home system enables two-way communication via the GSM network, allowing Lumos to remotely monitor and control the system. The payment process is depicted in Table 7 below.

Table 7: Lumos / MTN payment process

1	Customers top-up their mobile airtime balance to ensure they have sufficient balance to pay for the service package of their choice (this is the same balance they can use to make phone calls or buy data bundles).	5	Customers receive power for the number of days selected as part of the service package.
2	To credit their MTN Mobile Electricity service, customers send an SMS with their chosen service package, "3", "7" or	6	The embedded M2M SIM card sends information regularly on system usage and performance back to the Lumos back-end

⁵⁸ The Central Bank of Nigeria (CBN) confirmed that Lumos had presented the PAYG payment solution as a VAS and had been granted a Letter of No Objection to partner with MTN.

	"30," to a dedicated number.		system.
3	MTN receives the request, deducts the customer's airtime account and the Lumos back-end system is notified of the payment.	7	The SHS automatically shuts off after the credit is exhausted. Customers cannot use the system until they top-up their MTN Mobile Electricity account
4	Lumos sends a command to the solar home system to credit and unlock it. The embedded SIM receives and executes the command.		

The risks and rewards of airtime as a currency

In transactions in which a customer uses a pre-paid ('pay-as-you-go') mobile phone (which can count for as many as 99.5% of connections in many developing markets), the price of the product or service is deducted from their airtime balance.⁵⁹ However, when utilizing for energy services, the challenge is that airtime is not technically legal tender, but a commodity that the consumer has purchased.⁶⁰ The usage of this commodity as "virtual currency" operates in unregulated market territory, requiring providers to keep a close eye on regulation landscape shifts in the future.

However, the use of airtime as a currency is not a new phenomenon, and is a widespread practice in country markets such as Côte d'Ivoire, Egypt, Ghana, and Uganda, in part because the regulatory environment has not been conducive towards the development of scaled "real" mobile money deployments. The potential problems associated with airtime as a currency are masked by the natural practice of expressing a mobile phone balance in a fiat currency, whether it is dollars, shillings, pounds, rand, euro or naira. While the value proposition of using airtime as currency is clear from a customer convenience perspective, there are several issues that arise, including the fact that a parallel payment system is being created and there is a lack of parity. The use of airtime as currency has also raised several money laundering concerns. The informality of the cash-in/cash-out networks mean that tracing and auditing are very difficult, if not impossible.

Box 4: Airtime vs. mobile money for payment collections

"Payment via airtime is not synonymous with mobile money given that the first is a commodity and the second is [e-Money] and they are therefore regulated differently. Another area where the use of airtime or mobile money differs for PAYG providers, and SMEs in general, is in the technical integration between the service provider and the mobile operator.

To use mobile money, companies register to receive a bill pay number and access the Instant Payment Notification (IPN) data. Through APIs over standard protocols (e.g. HTTP/HTTPS), PAYG providers should be able to seamlessly integrate their back-end system (Customer Relationship Management system) with a mobile money provider's IPN. Since few mobile operators have fully opened up their APIs, most PAYG providers need to complete a custom technical integration with each mobile money platform they support. In

⁵⁹ Mondato (2014) The Risks and Rewards of Airtime as Currency.

⁶⁰ Ibid.

⁶¹ The Economist (2013) *Airtime Is Money*.

⁶² Mondato (2014) The Risks and Rewards of Airtime as Currency.

⁶³ Regulators usually require a 1:1 peg between e-money (mobile money) and legal tender: if the electronic currency (e-money) is fixed at the value of the national currency, then no fluctuations are possible and the electronic currency is a functional extension of the legal tender. Regulations fail when parity is (illegally) eliminated.

⁶⁴ Ibid.

cases where resources are constrained, this can take several months, several in-person visits and requires significant technical resources.

To use airtime, a mobile operator as a Value Added Service (VAS) vendor will approve a company and the mobile operator will offer the VAS directly. Customers pay for the service via premium SMS/USSD. From a technical perspective, mobile operators need to create a new product and short code for each VAS product so that customers can pay separately for each product or service. Payments, in the form of airtime deductions, are done and recorded by the mobile operator. Unlike other VAS, PAYG providers require instant notification of payments to be able to unlock the PAYG systems in real-time. The solution requires a fully integrated connection to the mobile operator's messaging and billing systems that fulfills Telco-grade requirements (e.g. dynamic scalability, geo-redundancy, mutual service level agreements and more). The customer end-to-end flow includes handling message interfaces to receive customer payment requests, handling payment and subscription capabilities, processing successful payments, providing the electricity to the unit and handling unsuccessful messages (error handling, customer notification and more). This level of integration requires a deeper level of partnership and support with the mobile operator partner including a detailed service level agreement. Beyond being able to facilitate the payment service, the mobile operator is effectively vouching for the quality of the billing of the VAS provider."

Source: GSMA (2016)

2.2.4 MAINSTREAM PAYMENT CHANNEL MODELS

In countries such as South Africa where banks have aggressive merchant acquiring strategies (PoS at retailers), customers are able to purchase pre-paid electricity vouchers using a merchant's Point of Sale (POS) card device. Customers can buy pre-paid electricity or from a merchant using their debit, prepaid, check or credit card. Online banking, mobile banking and payment at ATMs are well-developed options for banked customers.

Consumer

Consumer scans the OR

Originating Institution sends the payment confirmation to the transaction amount

Originating Institution

Payment acknowledged

Originating Institution sends the payment acknowledged

Originating Institution sends the payment acknowledged

Originating Institution sends the mostercard of the mostercard of the payment acknowledged

Originating Institution sends the payment request to the payment request to the payment request to the

Figure 6: Masterpass QR code at any Masterpass QR-accepting merchant locations

Another interesting alternative payment channel that is being tested by MasterCard and M-KOPA in Uganda is Mastercard's Quick Response (QR) payment technology. Masterpass QR, an open and interoperable technology that will create a new payment channel for M-KOPA's pay-as-you-go customers outside for Kenya. The network of mobile network operators and banks using Masterpass QR will help M-KOPA to scale and grow across Africa without requiring additional technology investments.

Masterpass QR is currently available in Ghana, Kenya, Nigeria, Rwanda, Tanzania and Uganda. 65

2.2.5 USSD MODELS

In June of 2017, Ikeja Electric (Nigeria) announced that consumers of its services would be able to pay their bills or vend energy through Unstructured Supplement Service Code, (USSD). ⁶⁶ Several banks including Diamond, Ecobank, Fidelity, Skye, Stanbic, Sterling, Union, Unity, Wema and Zenith have partnered with the electricity company. Customers must be banked to utilize this service, with a valid Bank Verification Number (BVN) tied to both their phone number used and bank account.

This and other USSD payment methods have been popular in Nigeria for several years, a protocol used by the GSM network to communicate with a service provider's platform. It is a session-based, real-time

 $[\]frac{65}{\text{https://newsroom.mastercard.com/press-releases/mastercard-m-kopa-solar-partner-light-homes-businesses-africation}}{\text{https://newsroom.mastercard.com/press-releases/mastercard-m-kopa-solar-partner-light-homes-businesses-africation}}$

⁶⁶ http://www.nigeriaelectricityhub.com/2017/06/06/ie-unveils-ussd-payment-channel

messaging communication technology, generally implemented as an interactive menu-driven service. USSD is one of multiple options for providers to enable access and transmit data, including SMS text and interactive voice response. Recently, providers of mobile-based financial transactions are increasingly adopting USSD technology, especially as the range of services supported is rapidly expanding to include account opening, balance and other enquiries, money transfer, airtime vending and bill payments. USSD has a shorter turnaround time than SMS, and unlike SMS, data is neither stored on the mobile phone nor on the application. USSD technology is considered cost effective, more user-friendly, faster in concluding transactions, and handset agnostic.⁶⁷

3. THE LINK BETWEEN PAYG SOLAR AND FINANCIAL INCLUSION IN NIGERIA

Financial inclusion is critical for the sustainable development of a country's economy, at a local level in Nigeria and on a global scale⁶⁸ A growing body of research shows that the benefits from financial inclusion can be wide ranging.⁶⁹ These include improving people's income-earning potential and thus reducing poverty⁷⁰; helping people manage financial risk—by making it easier for them to collect money from distant friends and relatives when times are tough⁷¹; lowering the cost of receiving payments⁷²; and helping customers accumulate savings and increase spending on necessities. The expansion of digital finance systems (electronic payments) in the developing world has altered the financial context and enabled new business models that rely on small, regular payments.⁷³

Meaningful financial inclusion involves not only access, but also the effective use of a suite of financial services products. The Despite various challenges to the business model, PAYG is a clear illustration of the duality of opportunities and imperatives created by the shift to digital financial services. On its face, the solar industry has little to do with financial inclusion. However, the expansion of reliable, affordable electricity in low income, rural communities demands alignment with an innovative financial services component. Without the basic infrastructure of streamlined digital payments, solar companies and other national industries are missing out on a critical market opportunity to contribute to Nigeria's growing economy and to the government's target of universal energy access. The International Monetary Fund estimates that a transition to digital payments, specifically mobile wallets, could save the Nigerian government between USD \$5 to \$9 billion annually, while greatly increasing financial inclusion.

3.1 NIGERIA'S FINANCIAL INCLUSION TARGETS

It is encouraging to see that global levels of financial inclusion are increasing⁷⁶, but as depicted in Figure 7 below, when compared to other countries across sub-Saharan Africa, Nigeria performs extremely poorly with regard to national account ownership with both traditional financial institutions and mobile money providers.

⁶⁸ See Better than Cash Alliance et al (2014) *The Opportunities of Digitizing Payments* where financial inclusion is broadly defined as, "both the access to and usage of appropriate, affordable and accessible financial services."

⁶⁹ World Bank (2018) The Global Findex Database Measuring Financial Inclusion and the Fintech Revolution 2017.

⁷⁰ Suri T and Jack W (2016) The Long-Run Poverty and Gender Impacts of Mobile Money.

⁷¹ World Bank (2018) The Global Findex Database Measuring Financial Inclusion and the Fintech Revolution 2017.

⁷² See Aker, J, Boumnijel R, McClelland A, and Tierney T (2016) *Payment Mechanisms and Anti-Poverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger* where it is noted that, "in a five-month relief program in Niger, switching the monthly payment of government social benefits from cash to mobile phones saved the recipients 20 hours on average in overall travel and wait time to obtain the payments."

⁷³ Waldron D and Faz X (2016) Digitally Financed Energy: How Off-Grid Solar Providers Leverage Digital Payments and Drive Financial Inclusion.

⁷⁴ Partnership for Finance in a Digital Africa (2017) *Learning Advances in Digital Finance*.

⁷⁵ IFC (2018) Digital Access: The Future of Financial Inclusion in Africa

⁷⁶ In 2011 the World Bank— with funding from the Bill & Melinda Gates Foundation—launched the Global Findex database, the world's most comprehensive data set on how adults save, borrow, make payments, and manage risk. Drawing on survey data collected in collaboration with Gallup, Inc., the Global Findex database covers more than 140 economies around the world. The initial survey round was followed by a second one in 2014 and by a third in 2017.

Country Country 2017 Cote d'Ivoire 14.77 34.05 Cote d'Ivoire Ghana 38.95 Ghana 72.93 Nigeria 5.61 Nigeria Tanzania 20.97 Tanzania 38.54 20 40 Financial institution account (% age 15+) Mobile money account (% age 15+)

Figure 7: Account at a financial institution and mobile money account

Source: Global Findex (2017)

One of the primary reasons for the large unbanked population across sub-Saharan Africa is geographical inaccessibility and poor, or no, digital infrastructure accessible to rural communities. In Nigeria, over half (95,604,255) the total population (185,989,640) lives in rural areas and only 39.3% of those in rural areas have access to electricity. This combined with overly restrictive regulations, the high cost of banking services and a lack of financial education and understanding, creates very high barriers to traditional banking and other financial services for rural Nigerian populations.

In most developing economies the gap in account ownership between richer and poorer adults reaches double digits. This is certainly the case for Ghana, Kenya, Nigeria and Tanzania. In Nigeria, of households in the highest 60% income bracket, 49.29% have an account, while of the lowest 40% income bracket, only 24.53% of households have an account.

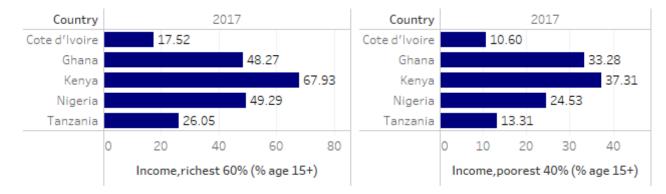


Figure 8: Gaps in account ownership between richer and poorer – account at financial institution

Source: Global Findex (2017)

Mobile money was intended to aid Nigeria in meeting its financial inclusion targets, but has largely failed to gain much traction in Nigeria and has not contributed much to achieving the CBN's cashless or financial inclusion policies. As represented in Figure 9 below, it has not been the catalyst as hoped: Among those in the poorest 40% of households, only 2.79% have mobile money accounts.

⁷⁷ World Development Indicators (2016).

Country 2017 Country Cote d'Ivoire 38.66 Cote d'Ivoire 27.09 32.03 Ghana 43.55 Ghana Kenya 81.93 Kenya 59.36 Nigeria Nigeria Tanzania Tanzania 43.95 30.37 40 20 60 80 100 20 40 60 Income, richest 60% (% age 15+) Income, poorest 40% (% age 15+)

Figure 9: Gaps in account ownership between richer and poorer - mobile money accounts

Source: Global Findex (2017)

Most people make payments such as for utility bills or domestic remittances. And most receive payments such as wages, other payments for work, or government transfers. The 2017 Global Findex survey asked people what kinds of payments they make and receive and how they carry out these transactions, whether using an account or in cash. Worldwide, 57% of adults reported having made regular payments for water, electricity, or trash collection in the past 12 months. This figure is much lower in Nigeria with only 31.65% of adults reporting to have paid utility bills in the past year. Of those who paid a utility bill, by far the most (22.29%) reported having paid in cash.

Paid utility bills: using cash only
Paid utility bills: using an account
Paid utility bills: using an account
Paid utility bills: using a financial institution account
Paid utility bills: using a mobile phone

1.29

0 10 20 30

Figure 10: Means of Payment - Utility Bills

Source: Global Findex (2017)

Although the Findex data does not disaggregate utility payments by sector, it can be safely assumed that the predominant means of payment for energy services is cash. The predominant use of cash creates several problems for utilities and energy service companies. Cash payments are cumbersome to collect, process, and reconcile, requiring significant agent labor force actively covering customer communities, create audit trail challenges with cash payments easily misappropriated through the payment supply chain, and are a high cost to consumers with regard to time required to complete transactions, especially if agent coverage is poor. Cash payments also exacerbate the existing challenges for energy consumers in rural and low income areas caused by "last-mile" energy distribution issues, such as irregular, seasonal incomes, limited access to formal finance, and low population densities.⁸⁰

Nigeria's Financial Inclusion Targets: Stakeholder Perspectives

⁷⁸ Ibid.

¹⁹ Ibid.

⁸⁰ Better than Cash Alliance and UNCDF (2017) The Fight for Light: Improving Energy Access through Digital Payments.

When seeking perspectives on Nigeria's progress towards its national financial inclusion targets, stakeholders interviewed over a two-week period in both Abuja and Lagos had mixed feelings about the reasons why Nigeria has failed to meet its financial inclusion targets (Box 5). The Nigerian Inter-Bank Settlement System (NIBSS) expressed the most salient perspective: "The problem in Nigeria is reaching the last mile. There are plenty of technical digital solutions available but in rural areas where there is no network coverage, no bank branches and no agent network. These problems have been experienced by various government social programs. It has been found that opening a mobile money account (wallet) for beneficiaries in very rural areas is a useless exercise. The "workaround" solution in some of these areas has been to call the people to the house of the village chief where a mobile money agent is in attendance with cash."

Box 5: Stakeholder views on financial inclusion

The Nigerian Communications Commission (NCC) understands that one of the primary reasons that Nigeria has not met its financial inclusion targets is the lack of direct participation of MNOs in the mobile money space. Several different scenarios have been examined in order to ascertain what has worked and what has not worked. It is anticipated that allowing MNOs to participate directly in the issuing of mobile money and the provision of mobile money services will be highly beneficial in the long run. The NCC has a financial inclusion desk and works closely with CBN to refine Nigeria's financial inclusion strategy, with a 2020 target of 80% Nigerians with active bank or mobile money accounts. What is required now are high impact solutions and measures which address the access gap (women, youth and geographical/regional). Going forward, a State Financial Inclusion Steering Committee will be launched, to help ensure that measures taken at the national level are implemented at the regional and local level.

The Nigerian Inter-Bank Settlement System (NIBSS) understands Nigeria's largest challenge to universal financial inclusion is reaching the last mile. While there are plenty of technical digital solutions available, these are inaccessible in rural areas with little to no network coverage, bank branches, nor agent network coverage. These problems are often experienced by various Government Social Programs (CCT program). A partial "workaround" solution in these areas has been to host a community gathering at the house of the village chief in which a mobile money agent is in attendance with cash.

Financial services providers Interswitch and PAGA reiterated that financial services and infrastructure are largely concentrated in Lagos, with very few bank branches in rural areas. Many people in rural areas cannot afford to move money digitally and financial services providers have been hesitant to invest in rural agent network expansion. PAGA has also found through customer surveys that while basic brand awareness exists, customer demand for savings products is still very high and undercapitalized. Innovectives noted that current payment use cases and agency models still largely fail to address the everyday Nigerian or the financially excluded until the economics of agent networks is better figured out- financial services provider agents should be as common and accessible to customers as a local grocery shop. "At the moment, all that is available (in rural communities), is cash-in and cash-out."

Source: Stakeholder interviews and meetings (February 2018)

3.2 PAYG SOLAR AS A DRIVER FOR FINANCIAL INCLUSION

Stakeholders interviewed for this report share the belief that linking solar off-grid solutions with mobile money creates a path toward greater financial inclusion in Nigeria. However, PAYG solar is a deceptively complicated product. PAYG providers are unique in many ways and most have largely designed their own hardware and software. In most cases, PAYG solar providers manage their own sales, distribution, underwriting, financing, servicing and maintenance internally. This vertical integration brings with it a number of challenges, not least of which is the question of how to collect a large number of small payments on a monthly, weekly, or even daily basis.

PAYG solar exists to solve a problem in energy access, yet there is also a direct link to financial inclusion. PAYG solar is perhaps the most powerful example of what has become known as "digital finance plus." Solar companies are now taking financial inclusion to a completely new level, providing a tangible service (access to energy) that requires customers to sign up for and start using e-money (mobile money and prepaid cards) or other electronic payment mechanisms associated with an underlying entry-level bank account.

A recent CGAP study estimates that 15-30% of PAYG customers access mobile money for the first time through the purchase of a solar home system. One solar company reported that over 90% of their customers had never made a digital bill payment before they acquired PAYG solar. It is also well accepted that the regular payment activity coming from PAYG clients improves the business case for mobile money providers. Where previously low income households living in rural and remote areas had not seen the benefit of signing up for a mobile money account, having to make payments with mobile money for a SHS has provided the impetus for having an account and actually using mobile money. As a result, PAYG solar companies are now among the largest bill-pay recipients on mobile money platforms in Kenya, Uganda, and Ghana. High transaction volumes generates added revenue to mobile money providers and has helped companies to secure preferential pricing from mobile network operators (MNOs) eager to convert registered mobile money users into active users.

There are additional advantages and long term benefits of PAYG solar linked to an electronic payment mechanism. Once the asset (the SHS) has been paid off, customers have a remotely securable piece of collateral in their possession. This asset can, and often is, refinanced in order to secure additional loans. The rich 12 – 60 month payment history and usage history generated through an electronic and auditable means provides customers with valuable evidence of the ability to pay, thereby providing them with a credit history which can be used when applying for additional loans. The willingness of providers to provide additional loans to good customers who have repaid on time has been seen in Kenya where M-KOPA has given out 150,000 follow on loans. PEG is now offering customers health insurance to mitigate against missed payments due to poor health. 84

3.3 INCLUSIVE MOBILE MONEY UPTAKE: LESSONS LEARNED FROM OTHER COUNTRY MARKETS

Part B of this report deals comprehensively with the enabling environment in Nigeria. However, before discussing the particulars of the Nigerian market, it is prudent to briefly discuss a number of opportunities for growth as learned from other country markets and industries.

3.3.1 BUILDING AGENT NETWORK COVERAGE

Rural communities in most sub-Saharan African countries (Kenya being the exception) remain severely underserved by mobile money agent networks. ⁸⁵ It is often very difficult to reach this customer base and mobile network coverage is often poor, with little incentive for MNOs to expand coverage to the area, as community purchasing power is low. However, as urban markets become more saturated and as more governments and regulators push for financial inclusion and more robust financial services infrastructure in rural areas, this dynamic is slowly shifting across the region.

PAYG solar is starting to provide a business case for the value of rural mobile money users. However, until MNOs or other financial services providers expand more significantly into these areas, PAYG sales agents must keep signing up customers for mobile wallets, and companies must maintain their own

⁸¹ Mark O (2014) Solar Lamp Top-Ups on M-Pesa Pay Bill Jump to 10,000 Per Day.

Waldron D and Faz X (2016) Digitally Financed Energy: How Off-Grid Solar Providers Leverage Digital Payments and Drive Financial Inclusion.

⁸³ Ibid.

⁸⁴ *Ibid*.

⁸⁵ *Ibid.*

"workaround solutions" for partial cash transactions, such as establishing collections agents or retail shops in the area. 86

3.3.2 MOBILE MONEY EXPOSURE

When mobile money and mobile money agents eventually arrive in rural areas, they are faced with a population who might own a mobile phone, but have never used the phone to send or receive money or pay bills. Recounting PEG's experience in Ghana, the team found that up to 70% of their customer base had never used mobile money, and customers familiar with mobile money had only used the service for person-to-person (P2P) transfers, and had never paid a bill. This required PEG to spend extensive labor, time, and resources on customer education campaigns designed to socialize mobile money in communities, which "is not as easy as it might look if you haven't been using your phone for anything else than making calls". This experience in Ghana is a highly common challenge for PAYG companies requiring significant investment.

3.3.3 AGENT LIQUIDITY

Aside from customer financial literacy, agents in rural areas often do not have sufficient liquidity to adequately manage all customer payments, especially if managing partial PAYG transactions which involve both digital transactions and cash payments. This can limit an agent to a smaller geographic coverage area, where cash is more readily available at an access point, and limits a company's capacity to scale. The seamless integration of mobile payments (market conditions pending) reduces liquidity challenges and allows agents to provide expanded coverage to wider customer bases.

3.4 OPTIMIZING AGENT NETWORKS: LESSONS LEARNED FROM OTHER COUNTRY MARKETS

The ability of the PAYG solar market to reach a critical growth stage in economies such as Nigeria will depend on company capacity to 1) attract enough capital to accelerate expansion, and 2) build and sustain far-reaching agent sales and service networks that can ensure sustainable customer onboarding and retention. ⁸⁹ Whether operating a direct, contractor, or partner sales model, the efficient management and expansion of a strong agent network is a critical component for company success. This requires significant company investment to create comprehensive, standardized onboarding and periodic training programs, maintain regular agent communications to manage performance, and establish high agent retention rates through appropriate incentive-based loyalty. What can PAYG solar companies learn from other industries with a strong track record in agent network growth, such as mobile network operators and microfinance institutions? The following sections outline several key success factors historically demonstrated in other sectors.

3.4.1 SUSTAINABLE AGENT NETWORK GROWTH

Sustainable network expansion takes significant planning and investment, and Nigeria's MNOs are aware of the commitment and funding level that will be required to build their money businesses and agent networks, if regulations loosen to include MNO engagement in the mobile money space. ⁹⁰ This transition will also require significant agent training in financial literacy and customer service, and MNOs estimate

⁸⁶ Ihid

⁸⁷ CGAP (2017) Exploring Opportunities for PAYG Solar as a Driver of Financial Inclusion

[&]quot; Ibid.

⁸⁹ Chang E (2017) PAYG Solar Agent Networks: 7 Lessons from Other Industries.

Meeting with the NCC, Abuja, Nigeria – 16 February 2018.

that only about 50% of their current airtime re-sellers will qualify for transition to financial agents. ⁹¹ This must be kept in mind and, more than any other factor, demonstrates that opening up the market to MNOs to provide mobile money services in Nigeria is unlikely to be the silver bullet to rapidly expanding the SHS market in Nigeria.

3.4.2 TIERED AGENT COMPENSATION

Many MNOs use a two-tiered channel structure for both lines of business, incentivizing mobile money aggregators with commission upon new customer onbaording and recurring revenue for repeated payment activity over time. Mobile money agent networks have also effectively used loyalty programs to cut down on agent attrition. ⁹² Several stakeholders in Nigeria confirmed the rationale behind linking financial inclusion with a tangible product such as a SHS that can be purchased on a PAYG basis, but at the same time emphasized the need for agents to be appropriately compensated and incentivized for both sales success and consumer protection purposes. Interswitch, while agreeing that there is potentially an interesting business case, stressed that offering these services will need to be attractive to agents. The same case applies to bill payments of all kinds. Agents will have to be properly incentivized and compensated otherwise customer sales uptake will remain limited. ⁹³

3.4.3 DEVELOPING ASSET-BASED LENDING EXPERTISE

As PAYG solar companies often sell SHSs to lower income consumers using asset-locked financing models, many companies have needed to develop in-house expertise in loan underwriting and credit scoring methodologies, which can require sophisticated skillsets far outside of traditional solar sales and operations. As the sector grows and further deverticalization occurs, this aspect of the business model will ideally be serviced by a third party financial provider, for efficiency and cost savings, but for the time being, in-house training is required in order to sufficiently service customers with limited capacity to pay high upfront costs upon point of sale.

3.4.4 AGENT ONBOARDING AND TRAINING: A VALUABLE INVESTMENT

The volume of daily transactions and monthly profitability of a sales agent has been proven to be significantly higher after receiving training in the first three months of employment, assisting agents through what can be a steep learning curve on both product and customer servicing. This training and onboarding process is a valuable investment, and ensures strong brand representation by agents in the field as well as more standardized quality of customer service. To avoid gaps in customer literacy and to lower potential default rates, a thorough onboarding process will greatly assist PAYG solar field staff in the use of any mobile technology required to complete transactions.

3.4.5 AGENT PERFORMANCE MANAGEMENT AND RETENTION

"Too many agents are left to their own devices, with little monitoring or support visits," according to a recent Helix Institute analysis of financial service agent networks across 11 countries. Regular field visits to agents, in-person seminars on best practices, and regular refresher training on the product and technology are important ways to maintain strong agent relationships and customer service. GSMA also

One of the commercial banks interviewed during the in-country scoping mission were of the opinion that when MNOs launch mobile money it is likely that they will have to build a completely new agent network, which will take time. This is due to the fact that airtime sellers are unlikely to make good financial services agents.

Chang E (2017) PAYG Solar Agent Networks: 7 Lessons from Other Industries.

⁹³ Meeting with Interswitch, Lagos, Nigeria – 12 February 2018.

recommends developing an "agent classification matrix" based on forecasts of agent growth and transactions to rank agent performance. 94

3.4.6 OPTIMIZING AGENT NETWORKS: SWEAT THE SMALL STUFF

Creating systems to support field agent networks and the details of optimizing the customer experience through these networks is essential. If companies fail to invest in these, the product may fail and customer may suffer no matter how much has been invested in hardware, software and systems. Given the steep learning curve often associated with transitioning a traditional sales agent to a PAYG sales agent, the digital financial literacy of both agent and customer becomes a critical aspect of the customer experience and appropriate product sale. Investing in sufficient agent training and customer education around various aspects of PAYG payment models ensures product sales appropriate to customer income levels, lower payment default rates, and higher customer conversion rates.

3.5 THE IMPORTANCE OF CONSUMER PROTECTION

Vulnerable consumers at the base of the pyramid need to be protected when accessing financial services and entering into finance deals for products such as PAYG SHS. Financial service providers need to provide transparent, respectful and prudent financial services, and the providers of SHS need to provide quality assets (hardware) to consumers. Globally, there has been a move towards protecting consumers from scrupulous lenders, and GOGLA has recently developed a consumer protection code of conduct specific to the PAYG market. These consumer centric practices include the following key requirements:

1) Affordability (product sales appropriate for customer income level to avoid over-indebtedness); 2) Fair and transparent pricing and sales (including truth-in-advertising); 3) Robust data privacy and security; 4) Product and service quality and durability, 5) After-sales service, warranty, and end-of-life management.

95

Protecting customer trust in DFS and in the financial sector overall is a key prerequisite to capitalize the gains made in Nigeria in increasing inclusion and to move to the next step. As the range of DFS functions expand (including the use of electronic payment mechanisms) and inclusion deepens, there is need for effective consumer protection to help to secure confidence in the financial system. As depicted in Box 7 below, the importance of adequate consumer protection frameworks are increasingly being recognized by regulators and the off-grid solar industry at large.

Box 7: Off-grid Solar Industry Takes the Lead in Developing Consumer Protection Code of Conduct

As GOGLA states, "The consumer is the central figure of the off-grid solar sector. Demand from consumers has inspired our member companies to provide an ever-growing range of quality off-grid solar energy products and services. It is thus perhaps not surprising the industry is now taking the lead in developing a sector-wide code of conduct on consumer protection. Affordability, fair and transparent pricing and sales, data privacy as well as product and service quality are just a few examples where the sector can demonstrate its leadership." The Center for Financial Inclusion further notes, "As the off-grid solar energy industry continues to expand rapidly, it is critical that companies collectively define and adopt standards of responsible practice to ensure that PAYG and other financing models do not create negative externalities for their customers. Industry standards have been proven to have a significant positive impact on customer treatment, and responsible companies can pave the way for others to ensure that their adoption becomes the norm". CFI has developed the Smart Campaign framework to further standardize consumer protection principles across the sector.

Paula Berning of Mobisol explains how this process has positively impacted Mobisol's business. "Assessing our activities in line with the Smart Campaign's Client Protection Principles has helped Mobisol focus on its customer needs and claims. Creating a cross-departmental Steering Committee, defining a Code of Ethics and understanding risks regarding over-indebtedness were just a few of the very important steps we took towards making our PAYG business model even more customer-centric." *Source: Center for Financial Inclusion (2018)*

95 Ibid

⁹⁴ Ibid.

PART B: THE DFS LANDSCAPE: ENABLING PAYG SOLAR

4. THE DIGITAL FINANCIAL SERVICES ECOSYSTEM IN NIGERIA

One of the central questions this study aimed to examine was, "if the current regulatory framework in Nigeria was to transition to a mobile-led (MNO) mobile money model, would this provide the sufficient foundation required to drive the PAYG off-grid solar market?" Research has found that while opening up the market to MNOs may aid in assisting the CBN to meet its financial inclusion targets over the long run, this is not the silver bullet that everyone is hoping it will be for the PAYG solar sector.

In Nigeria, the country faces a myriad of structural, technical and infrastructural problems that need to be resolved, including a fragmented DFS ecosystem with numerous operators promoting proprietary DFS; network complexity; a lack of interoperability (mobile money operator (MMO) to MMO); and poorly developed agent networks. A confusing and often contradictory legal and regulatory framework in which mobile money (e-money) is often equated with mobile banking, market participants are not equally treated, and mandatory requirements such as the Bank Verification Number (BVN) create adoption challenges. High service fees disproportionate to the income levels of under-banked and unbanked consumers and other barriers to access are basic issues requiring measured intervention before MNO-led mobile money schemes are likely to have any real impact.

A more holistic approach to the enabling market conditions required to scale PAYG solar business models in Nigeria requires a understanding of the current gaps in Nigeria's digital financial ecosystem beyond a lack of MNO participation. The following graphic represents key stakeholders and market actors required to promote a sustainable DFS market development trajectory. With respect to the payments system, this requires sufficient openness of the legal and regulatory environment combined with adaptable and innovative service providers.

DFS Products & Services Transactional accounts **DFS Providers** Payment services – Banks including bill and merchant MNOs payments • E-Money Issuers Savings accounts • Other Financial Institutions **Investment Services** Licensed Non-banks Loans **DFS** Users Insurance services Consumers Merchants Businesses Governments Donors Non-profit groups **DFS** Use Cases **DFS Support Services** Storing funds • Entities and networks that Buying Paying bills extend the coverage of DFS Providers and Sending / receiving funds Interfaces to Users Borrowing Saving Agents Processors Insuring assets & risks

Figure 11: The Digital Financial Services (DFS) Ecosystem

A comprehensive DFS ecosystem consists of empowered users (consumers, businesses, government agencies, and non-profit groups) with a need for digital and interoperable financial products and services; accessible payment providers (banks, MNOs, e-Money issuers, and other licensed and non-licensed providers) who supply products and services through digital means; the financial and technical infrastructures required to complete transactions; and the governmental policies, laws and regulations that enable transactions to be completed in an accessible, affordable, and safe manner. Most importantly, a strong DFS ecosystem promotes universal financial inclusion, which in Nigeria is also largely reliant on the stability and integrity of the National Payment System (NPS), discussed later in Section 3.1.1. The strength of this ecosystem is highly dependent on several critical components of Nigeria's enabling environment, outlined below.

4.1 INFRASTRUCTURE READINESS IN NIGERIA

Infrastructure readiness consists of the following key components:

Payment Systems: available for transaction between and among end users, including consumers, merchants, businesses, donors and governments. The payment system may be public, semi-public private. They may be "closed-loop" or "open-loop". Security of payment systems is a requirement of infrastructure readiness. In addition, a certain degree of payment system interoperability among participants is a necessary component of infrastructure readiness.

Voice and Data Communication Networks: to support financial messaging among end users and providers. Certain levels of communication network quality and security are a necessary component of infrastructure readiness.

Identity Systems: capable of identifying end users and their providers, and authentication systems capable of recognizing and validating these identities. Identity systems may be national ID's, sectorial ID (financial industry identifiers, bank account numbers, and mobile numbers) or private sector ID's (WeChat or PayPal identifiers). Some national ID's are biometrically enabled – this is expected to become a significant part of the ecosystem in the future (ITU, 2016). Authentication systems include systems that provide for two, three and four factor authentication and usually include a PIN number and or biometrics.

Energy availability: sufficient to support the users of a digital financial ecosystem.

The DFS Ecosystem also includes the users of DFS and those that provide DFS.

Users: this term is used to include all entities that are users of DFS and includes consumers, merchants, billers, businesses, government, donors and non-profit agencies.

DFS Providers: this term refers to all entities which provide DFS to end users. For the purposes of this report, banks, MNOs and Aggregators (providing e-Money solutions in the form of prepaid cards and mobile money transfers) are focused upon.

DFS Providers Support Services: this includes all entities which provide services to DFS providers. This includes processors, platform providers, and a wide range of software and hardware (e.g. terminals, ATM's) providers. It also includes agents (who may work on behalf of either bank providers or non-bank providers), and are an important component of the digital financial services ecosystem.

4.1.1 THE NIGERIAN NATIONAL PAYMENT SYSTEM

In order to operate and provide effective financial services, including transaction accounts, electronic payment mechanisms, and e-money schemes (including mobile money), certain financial infrastructure is required. This includes payment infrastructure (e.g. RTGS, clearing houses and payment switches) as well as certain data sharing and information systems (credit reporting systems, collateral databases). Additionally, institutional level infrastructure, such as a centralized account management system (core banking system) is required. Interbank systems for retail payments (automated clearing house for electronic fund transfers and/or check clearing houses) and payment switches (typically for card transactions but increasingly for mobile money) make it possible to process a large number of payments in a fast, secure and cost effective way. A central clearing house/automated clearing house (ACH) or switch provides the necessary "hub" for processing interbank transactions. This lifts the quality and efficiency of those transactions, and effectively expands the network access points (ATMs, POS terminals, mobile devices, agents and branches) for individual customers.

4.1.2 MODERNIZATION OF THE NATIONAL PAYMENT SYSTEM

The modernization of the Nigerian National Payment System, driven in the most part by the CBN began as early as 1993 and government and the private sector have developed the core infrastructure of a national payments system with a relatively high capability to transact among financial institutions (banks and mobile money operators). This core electronic infrastructure is increasingly being used by governments, companies, and high-income individuals to make electronic payments using bank transfers and cards. The CBN has been the driving force behind the modernization process.

During the initial stages of the development of the electronic payment infrastructure (1996-2004), Nigeria experienced a significant amount of financial fraud, exacerbated by the ease with which the manual payment system could be exploited as well as nascent electronic service platforms. The manual, cashbased system was prone to exploitation because of the lack of transparency and increasing sophistication of financial crimes.⁹⁸

The establishment of the Nigerian Inter-Bank Settlement System (NIBSS) in 1994 set the stage for efficient clearing and settlement of interbank payments via an automated system. After the establishment of NIBSS, the next major infrastructure milestone was the launch of the Nigerian Automated Check Clearing System (NACS) in 2002. This ended the manual clearing of checks. Following the NACS implementation the CBN introduced a series of policies and issued several circulars to banks with the objective of promoting electronic payments.

In 2005 the National Payment System Committee was reconstituted to further coordination of policy and infrastructure developments. Several significant system developments came to fruition in 2006. These developments were: 1) the implementation of the Real Time Gross Settlement (RTGS) System; 2) the establishment of a National Central Switch; 3) check printing standards and accreditation; and 4) an Enterprise Resource Planning (ERP) system to enable electronic payroll.

In 2013, a new RTGS and Scripless Securities Settlement System (S4) was deployed. The new system is a component of the Financial System Strategy (FSS 2020) and went live on December 16, 2013. The RTGS/S4, which replaced the old system, provided robust capabilities to handle multiple and concurrent

⁹⁶ Better than Cash Alliance (2015) *Nigeria Country Diagnostic*.

The Better than Cash Alliance note that however that the vast majority of adults and informal businesses do not have a formal financial account and hence are unable to accept or make electronic payments today. Outside of a few relatively urbanized states such as Lagos and Abuja (FCT), the availability of financial infrastructure and the extent of financial inclusion are low.

⁹⁸ Better than Cash Alliance (2015) Nigeria Country Diagnostic.

high value and high volume transactions and addressed the problems of intra-day credit spillage in the financial services industry. Other challenges that the system addressed included: low response and downtime, as well as reconciliation issues. The current function and performance of each system and the institutions providing payment services will be covered in subsequent sections of the report. It is however important to keep in mind just how much has changed in Nigeria and the progress that the CBN has made since 1993. Notable milestones in the development of the core payment system infrastructure include:

1993	Implementation of Magnetic Ink Character Recognition
1994	Establishment of Nigeria Inter-Bank Settlement System (NIBSS)
1996	Setting up of Technical Committee on Automation and appointment of consultant for Nigeria
	Automated Clearing System (NACS)
2002	Full implementation and live operation of the NACS
2004	Switching companies and interoperability of /shared ATM /POS
2005	Reconstituted National Payments System Committee and set up technical sub-committee
2006	Establishment of National Central Switch
	Implementation of RTGS System, eFASS and ERP
	Payment System Strategy Team formed
2007	Payment System Vision 2020 (First Iteration)
2008	Harmonization of clearing cycles (upcountry and local) at T+2 2008 (Three working days)
	Deployment of NACS to Port Harcourt Clearing Zone
2009	Deployment of NACS to Kano, Ibadan & Enugu
2010	Migration to EMV Cards
	CBN grants 16 operators approval-in-principle licenses to operate mobile money services
2011	Licensing of mobile money operators
	6 Payment Terminal Service Providers (PTSPs) licensed to deploy, maintain and support POS
	terminals on behalf of Acquirers
2012	Implementation of check truncation in Lagos
2013	Deployment of new RTGS and Scripless Securities Settlement System
	Nationwide implementation of Check Truncation
	Reduction of clearing cycle to $T+1$ from $T+2$
	Licensed 10 additional PTSPs
	Payment System Vision 2020 Strategy (Release 2) Document released
2014	Biometric registration of bank customers commences (BVN)
2015	CBN implements a monitoring solution for effective surveillance of MMOs and their transactions
2016	CBN, NIBSS, banks & telecom launch mCASH
	CBN licenses 11 new intl MTOs to do business in the country's foreign exchange market
	CBN grants an approval-in-principle to two companies—Innovectives Limited & Interswitch
	Financial Inclusion Services Limited (IFIS) to operate as super agents
2017-F	Present National Financial Inclusion strategy under development

4.1.3 PARTICIPANTS IN THE NATIONAL PAYMENT SYSTEM

Although not currently legally enforceable, the *Payment System Management Bill, 20*17 provides good insight into the regulatory direction that the CBN is taking with respect to the future management, administration, operation, regulation and supervision of payment, clearing and settlement systems in Nigeria.

Several provisions of the Bill set out the powers of the CBN. Specifically, in terms of section 2(1) only the CBN will have the power to authorize the operation of a payment system in Nigeria. Section 3(1) will also require any person wishing to be a payment system participant to apply to the Bank an authorization under the Act. Similarly, in terms of section 3(2), any person desirous of being a payment service

provider will need to apply to the Bank to be registered as a service provider in accordance with the rules made by the Bank in that regard. Importantly, for the purposes of this report, section 3(3) specifically states that, "an application under this section shall only be made by a company duly incorporated in Nigeria."

Despite the fact that the Bill has not been passed, in its effort to strengthen the oversight of the payments system, the CBN established the Payments System Policy and Oversight Office, for effective monitoring of existing and planned payments system. The Payment System Policy and Oversight Office currently performs monitoring and oversight functions (onsite and offsite) on Payment system in Nigeria with particular reference to functions of Switching Companies, Mobile Payment Operators (MPO), Payment Terminals Service Providers (PTSP), Card Scheme Operators and Payment Terminal Service Aggregator (PTSA) and other Payment Service Providers.

The CBN has issued various licenses to Payment Service Providers⁹⁹ for operation in the Nigerian Payments System (See Figure 12 in Appendix), with the Nigeria Inter-Bank Clearing and Settlement System is currently the only clearinghouse operating in Nigeria. There are currently seven licensed commercial switches (and an additional two granted Approval in Principle (AIP)), twelve Payments Solution Service Providers (additional eight with AIP), and nineteen licensed Payment Terminal Service Providers (PTSP) (additional eight with AIP). Four international card schemes – Visa, MasterCard, American Express and Verve are currently licensed to operate. Ten bank-led Mobile Money Operators (MMOs) are licensed (additional four bank-led MNOs have AIP), and fifteen non-bank MMOs are licensed (additional four have AIP). Finally, Interswitch Financial Inclusion Services Ltd, Capricorn Digital and Innovatives Limited are licensed Super Agents (additional two have AIP).

In line with global trends in managing inherent payment and settlement risks in large value payments, the CBN commenced the operations of the Real Time Gross Settlement System in December 2006. The CBN RTGS (Central Bank of Nigeria Inter-bank Fund Transfer - CIFT) System interfaces with the core banking application (T24 System) and had all the Deposit Money Bank and Discount Houses as direct participants. A new RTGS System was deployed on December 18, 2013 along with Central Securities Depository (CSD). The purpose of the replacement of the old RTGS System is to have a robust system that will meet all the users' requirements and addresses all the challenges with the old system. The new RTGS facilitates straight-through-processing (STP) between RTGS and core banking application. CIFT is linked with approved external systems such as the Nigerian Inter-Bank Settlement System (NIBSS). NIBSS transmit net settlement position of banks from clearing to RTGS for settlement at a designated time. Zero session is 9am for settlement of CSCS file, 1st session is at 10am for settlement of check and NEFT, 2nd session at 2pm for settlement of return check and NEFT, 3rd session at 3pm for inter-bank settlement of cards and other electronic payments.

4.1.3.2 Nigeria Interbank Settlement System Plc (NIBSS)

The Nigeria Inter-Bank Settlement System Plc (NIBSS) was set up by the decision of the Bankers Committee in 1992, as a Shared-Service infrastructure for facilitating payments finalities, streamlining Inter-bank payments and settlement mechanisms, to drive and promote Electronic Payments across the Nigerian Financial Industry. NIBSS was incorporated in April 1993 and commenced operations in June 1994 by deploying state of the art technologies to complement the Central Bank of Nigeria (CBN)

⁹⁹ Section 34 of the Payment Systems Management Bill, 2017 defines a Payment Service Provider as, "a person who provides services involving direct interaction with the payment systems, settlement systems, clearing systems and payment system arrangements, as the Bank may authorize from time to time."

 $^{{\}color{red}\textbf{See}}~ \underline{\textbf{https://www.cbn.gov.ng/Paymentsystem/LargeValuePayments.asp}}$

payment activities and has since driven and contributed immensely to the growth of the Nigerian Payments System.

NIBSS continues to drive collaboration with all Nigerian Banks, Card schemes, Processors, Payment Terminal Service Providers (PTSPs), Mobile Money Operators (MMO), Telecommunication providers and other Payment Service providers to improve adoption of Electronic Payment in Nigeria. NIBSS is owned by the Central Bank of Nigeria (CBN) and all licensed Deposit Money Banks (DMBs) in Nigeria. The Board consists of the Deputy Governor (Operations), Central Bank of Nigeria, as the Chairman and Representatives of the stipulated Banks.

NIBSS is responsible for the management and operation of much of the retail payments infrastructure. It also offers value added services to several payment system participants. NIBSS provides and operates the following systems and services: (1) settlement services; (2) NIBSS Intra-Day Exposure System (NIDES); (3) E-Dividend; (4) Nigeria Automated Clearing System (NACS) infrastructure; (5) Electronic Funds Transfer (NEFT) – ACH Debits and Credits; (6) Nigeria Central Switch (NCS); (7) NIBSS Instant Payments (NIP); (8) Central Mandate Management System; (9) Automated Bulk Clearing Service (ABC); and (10) NIBSS eBillPay.

Settlement Services

Private switching companies and the Central Securities Clearing System Plc (the clearing and settlement system of the Nigerian capital market) rely on NIBSS for the cash settlement of their operations. The settlement data of these companies are transmitted electronically to NIBSS daily (over the NIBSS secure payment network). The NIBSS settlement engine processes received data and aggregates such and processes it through the RTGS of the CBN. Appropriate electronic advices are provided to banks and other stakeholders in every processing cycle.

NIBSS Intra-Day Exposure System (NIDES)

NIBSS enriches settlement operations, particularly in the banking system with the NIBSS Intra-Day Exposure System (NIDES). It enables all Bank Treasurers and Fund Managers to monitor exposures between banks. Each of the Banks connected to NIDES are enabled to have early online access to their bank's exposures to other banks for transactions in the inter-bank money market.

E-Dividend

NIBSS secured the consent of the Securities and Exchange Commission (SEC) and other major stakeholders of the Nigerian capital market in 2007 to be the sole processor of shareholders' dividends. NIBSS enriches settlement operations, particularly in the banking system with the NIBSS Intra-Day Exposure System (NIDES). It enables all Bank Treasurers and Fund Managers to monitor exposures between banks. Each of the Banks connected to NIDES are enabled to have early online access to their bank's exposures to other banks for transactions in the interbank money market.

NACS

NIBSS operates the Nigeria Automated Clearing System (NACS) infrastructure that clears the majority of deferred net settlement payments.

NIBSS Electronic Funds Transfer (NEFT) – ACH

The NEFT service is widely used by all banks to process inter-bank electronic funds transfer instructions of their respective customers. NEFT is a typical high-volume batch ACH system and supports both debit and credit payments. The

Debits and Credits

channels supported by NEFT are Bank Branches and Internet Banking. NEFT transactions settle in two of the three daily settlement sessions of the national clearing system (NACS) operated by NIBSS. A NEFT payment is an irrevocable fund transfer instruction because the payer's bank simply will not accept the order if there are insufficient funds to cover the payment instruction. The NEFT is similar to the GIRO payment method which has become popular in Europe and other parts of the world.

NIBSS Instant Payments (NIP)

A new payment scheme – NIP was introduced by NIBSS in 2011. NIP offers real-time inter-bank account-to-account electronic funds transfers. The NIP channels are Bank Branches, Internet Banking, Mobile, ATM, POS and USSD. NIP allows the payer to confirm the account holder name before sending funds and uses the central switch to pass the payment instruction in real0time to the beneficiary bank which applies the funds on receipt. The increased use of the platform has been attributed by the CBN to the growing public awareness of this mode of payment and users' preference, given its advantage of ease and speed of transfer.

Central Mandate Management System

The Central Mandate Management System (CMMS) was introduced by NIBSS Plc to address the problems and challenges faced by Banks, and Utility Service Providers (PayTV, Leasing, insurance companies, etc.) in the settlement of bills by subscribers. It has been established as a central electronic repository of signed Direct Debit mandates of Bank customers, who are also subscribers of Utility service companies otherwise called Billers. This system enables Billers to process bill payments effortlessly and in a cost-effective manner, while providing electronic payment convenience for bank customers. With CMMS, banks are also able to provide modern bill payment support for their respective corporate and individual customers. The Central Mandate Management System is designed to aid the successful implementation of the Central Bank of Nigeria's Guidelines on Nigeria Direct Debit Scheme (GNDDS) referenced BOD/DIR/GEN/CIR/01/025A released and published on February 18, 2010. 101

Automated Bulk Clearing Service (ABC)

NIBSS provide EFT services to corporate bodies and government agencies directly. The ABC operations sorts all these instructions accordingly "bank by bank" and after each clearing session delivers each banks' bunch of instructions originating from other banks to them, also as electronic files. Each bank acts on the basis of these instructions received to give value to their respective customers by crediting the customers' account. This service was launched as an exclusive NIBSS service on Monday, 9th January 2006 and leverages on the following mechanisms: *Automated Direct Credits (ADC)* is designed to facilitate paperless clearing of bulk credits (salaries and pensions, shareholders' dividends, etc.) Automated Direct Credits enjoy the same day clearing and settlement.

Automated Direct Debits (ADD) is designed to facilitate the remote debiting of bank account e.g. insurance premium payments, schedules donations, utility bill payments like water rates, electricity bills and telephone bills, etc. based on payers' pre-authorizations.

¹⁰¹ All the 24 Deposit Money Banks have accepted the Central Mandate Management System as an initiative that would complement the CBN's effort at improving the adoption of Direct Debit payment system in Nigeria. A bank executive recently noted that this is a move in the right direction by NIBSS towards propelling electronic payments especially automated direct debit in Nigeria to the next level of acceptance and efficiency desired to further make the Nigeria financial system more cashless.

NIBSS eBillPay

NIBSS eBillPay is an account-number-based, online real-time Credit Transfer product that enables customers to make payments by leveraging the security provided by banks. The service also facilitates electronic bill payments, collections and purchases.

Nigeria Central Switch (NCS)

As the Nigeria Central Switch, NIBSS is responsible for the interoperability between the various players in the financial system. Interoperability involves the ability of the various players Banks, Mobile Payment Operators, Non-Banking Financial Institutions, Payment Terminal Providers, Card Acquirers, Government Institutions etc., and their customers to send, receive and process funds, documents and other instruments electronically through a common channel – NIBSS. NIBSS also ensures that the central switch facilitates the entry of new players into the financial industry to seamlessly plug into the financial services sector for easy operations thus creating a level playing field for all financial institutions and their customers.

4.1.3.3 Interswitch

Interswitch is licensed as a Processor, Switch, PSSP and PTSP by the CBN. Interswitch is a commercial organization which offers payments processing and switching infrastructure for payment routing. It provides online, real-time transaction switching that enables access to funds across a variety of channels including ATMs, PoS, mobile phones, kiosks, the Internet and bank branches, Interswitch's EFT switching application supports all major networks including Verve, MasterCard, Visa and China Union Pay, besides other proprietary networks. The infrastructure is based on open-system architecture and uses relational database technology, offering clients' portability, and reliability as they expand. The opensystems architecture reduces/eliminates the considerable expense, of paying for proprietary hardware, software, and PCIDSS compliance. Interswitch's back office systems provide comprehensive settlement and reconciliation services along with free associated reports. Interswitch payment processing integrates seamlessly into several existing software solutions (e.g. SAP and Oracle). Interswitch also integrates internet payments using cards, tokens and devices with existing websites and other channels. The solutions offered by Interswitch can be classified into 6 groups: 1) payment, collections and monitoring solutions (Paydirect, Quickteller); funds disbursement solutions (Autopay); 3) retail management (Retailpay); 4) industry solutions; 5) hardware products; and 6) consumer products (Verve, Quickteller, and Rewards).

4.1.3.4 Payments Solution Service Providers (PSSP) (FinTechs)

In recent years, the CBN has recognized a new category of service providers. Payment Solution Service Providers (PSSPs), better known as FinTechs are steadily gaining traction within the Nigerian market. FinTechs offer a number of innovative payment solutions ranging from e-commerce platforms, payment gateways, CRM platforms, card processing services and merchant services. Several money deposit banks have started to outsource their payment gateway services to payment platform providers. This, in a bid to ensure efficient service delivery and to focus on traditional banking services. ¹⁰²

¹⁰² CommunicationsWeek (2018) Banks Outsource Payment Gateway Services to Fintech.

To date, the CBN has licensed thirteen PSSP, the most recent licensee being Cellulant Nigeria Limited. Licensing is given to companies that conform to internationally accepted operational, regulatory and technical standards. Recently, a number of Nigeria's most well-known Fintech companies including Kinexus 104, Paystack 105, Wallet.ng (not all licensed PSSPs) openly announced their intention to support and adopt *Open Banking Application Programming Interface (API)* standards for the transformation of financial services in Nigeria. From the second quarter of 2018 these Fintechs will integrate Open Banking technology into their solutions which are used by thousands of merchants and reach millions of online payers monthly. OSee Annex B for a full list of licensed PSSPs and their platforms / services.

4.1.3.5 Mobile Money Operators (MMOs)

In 2015, the CBN published both a Regulatory Framework for Mobile Money Services in Nigeria and Guidelines on Mobile Money Services.¹⁰⁸ The Regulatory Framework makes provision for only two specific models, namely: two models for the implementation of mobile money services namely;

- Bank Led Financial Institution(s) and/or its Consortium as Lead Initiator;
- Non-Bank Led- A corporate organization duly licensed by the CBN as Lead Initiator.

While the CBN acknowledges the role of mobile network operators (MNOs) in the provision of infrastructure, the telco-led model (where the lead initiator is an MNO) is currently expressly prohibited in Nigeria. The justification for this stance was that the CBN was of the opinion that the exclusion enabled the CBN have full control of monetary policy operations, to minimize risks and to ensure that the offering of financial services are driven by organizations that have been licensed by CBN to do so. ¹⁰⁹ Currently, MNOs may only participate in the MMO space as subordinate infrastructure providers but are still required to a) provide their telecommunication network infrastructure for the use of permitted MMOs; b) ensure that a secure communication channel based on the minimum technology standard stipulated in this Guidelines are implemented; c) not enter into exclusivity agreements or give preferential treatment to any MMO over another in terms of traffic and price; d) ensure that their own customers are free to use any mobile payments scheme service of their choice; e) not receive deposits from the public, except in respect of the airtime billing of their customers; f) not allow the use of the airtime value loaded by their customers for purposes of payments or to transfer monetary value; g) ensure seamless interconnection between MMOs; and (h) not engage in any conduct which has a purpose or effect of anticompetition in any aspect of mobile money services. ¹¹⁰

There are currently ten licensed bank-led MMOs operating in Nigeria. An additional four have been given Approval in Principle (AIP) by the CBN. Fifteen non-bank-led MMOs are currently licensed and four have Approval in Principle. Mobile money was one of the major segments of the Nigeria e-payment

¹⁰³ Innov8tive (2018) Central Bank of Nigeria Strengthens Commitment to Boost Digital Payment Adoption with Latest License Approval.

Kinexus, a company focused on building the new digital economy, is a leader in API gateway, API management, and API portal system. The Kinexus Open Banking API solution simplifies and accelerates the process of delivering open banking by providing secure, ready-to-use APIs along with the computing infrastructure to support internal and external innovation.

Paystack – the first Y Combinator-backed company in Nigeria – powers from 15-20% of all online payments in Nigeria for over 8,000 businesses. Paystack has raised investment from the likes of Tencent, Comcast Ventures, and Ventures Platform.

Okonkwo O (2018) Open Banking Nigeria: Kinexus, Paystack, Wallet.ng Endorse, Adopt API Standards.

¹⁰⁷ These organizations have backed the Open Banking initiative in Nigeria since its early days. Kinexus participated in the review of the original API specifications of Open Banking Nigeria while Paystack is represented as the secretary in the group, which advocates for open APIs to deliver innovation and choice to customers, businesses, fintechs, and banks. Wallet.ng, on the other hand, would be providing APIs and data for developers and innovators to build on before the end of Q2 2018.

https://www.cbn.gov.ng/Out/2015/BPSD/Guidelines%20on%20Mobile%20Money%20Services%20in%20Nigeria.pdf

See 1.0 Introduction Regulatory Framework for Mobile Money Services in Nigeria.

¹¹⁰ See Guideline 8.4 Guidelines on Mobile Money Services in Nigeria.

ecosystem primed by the CBN to aggressively drive its financial inclusion vision, where 80 per cent of Nigerians are expected to have been financially-included by 2020. MMOs (bank-led and non-bank led models) have however failed to drive the financial inclusion agenda and have failed to meet the CBN targets. This is due to a number of reasons including a lack of proper understanding of the conditions of their licenses, paucity of fund, poor infrastructure in the rural areas and a lack of synergy in rolling out agent network. Most of the licensed MMOs in Nigeria are believed to have remained inactive and many have yet to officially commence operations. Consequently, the CBN has recently taken the decision to raise the capital requirements for licenses from N 500 million N1 billion at the end of December 2017 and now to N2 billion, with a caveat that any operator that fails to meet the 1 July, 2018 deadline for the new capital requirements will have its licenses revoked.

The exclusion of MNOs from directly launching and operating mobile money schemes in Nigeria has been a point of contention within the industry for several years. This is particularly so as it is the MNOs that own the gateway and infrastructure on which the system rides. MNOs have not ceased to express displeasure for only being allowed to provide network infrastructure for mobile money through which bank services can be offered, but restricted to favoring any Mobile Money Operator, MMO, over another, in terms of traffic and price. They are however, determined to become the Lead Initiators of mobile money in Nigeria on the basis that the current model has had very little impact on the economy. 114

Representatives from telecoms such as Airtel Nigeria believe that mobile money services in Nigeria will continue to experience low patronage until the CBN adopts more of a telco-led model, which has been confirmed by the CBN in February 2018 that a new legal and regulatory framework for mobile money is under development. Under this framework, MNOs will be permitted to issue e-Money (mobile money) directly through the establishment of a Special Purpose Vehicle (SPV) which will be regulated by the CBN (not the NCC). This initiative is supported at the highest level including the CBN Governor and the Office of the Vice President of Nigeria. The NCC will meet with all MNOs and inform them that of recent industry/regulatory developments and that they will, in time, be able to issue e-money and participate directly in the NPS. (See Box 8 below).

Box 8: Stakeholder views on MNOs being licensed as MMOs

Central Bank of Nigeria (CBN): As MNOs are currently prohibited from rendering financial services under the Telecommunications Act, this Act and other Acts and Regulations (including the Mobile Money Regulations) will need to be amended. It will also be necessary to harmonize all relevant laws and regulations going forward.

Nigerian Communications Commission (NCC): At a meeting with the Vice President late 2017, it was decided that MNOS should be allowed to participate as MMOs. This was based on the argument that MNOS have developed core competencies, network and transmission and have the capability to reach rural areas. It has also been decided however that MNOs will need to operate their mobile money businesses through a specially created subsidiary / SPV which will be registered and regulated by CBN. The requirement of having a separate SPV will help to avoid regulatory overlap. Although there is a participatory style of regulatory oversight etc., e-Money issuance is a financial service and the CBN is the appropriate regulator for this.

Not everyone is happy with this development. Parliament is currently receiving petitions from small non-bank led MMO who believe that MNOs must be stopped, and must not be allowed to participate as this will kill their businesses. The NCC are however of the opinion that non-bank led MMOs seem to be focused on driving prices upwards as opposed to

114 *Ibid*.

112 *Ibic*

Agumagu J (2018) Mobile Money: Boosting Financial Inclusion via Recapitalisation

Chinwendu Udogu J (2017) Mobile Money: Banks, Telcos Fight Dirty in Nigeria.

concentrating on increasing their business volumes.

MNOs have balanced expectations going forward and are aware that a lot of funding and work will be required to build this business line. MNOs are not expecting that mobile money will be sold on the street like airtime. They are aware that a lot of commitment and funding will be required to build mobile money businesses and agent networks. The MNOs estimate that only about 50% of their current airtime re-sellers will qualify for transition to financial agents. The MNOs are also aware that a lot of capacity building will be required in this agency network area.

Nigerian Inter-Bank Settlement System (NIBSS): Nigeria is a very different market to Kenya and in Nigeria banks have been providing mobile enabled payments / transactions for years. This is referred to in Nigeria as "USSD banking". Given the nature of the market and the ease with which one can now open a bank account (remotely through USSD), there is very little that MNOs will be able to offer the market at this stage.

Ecobank: The Nigerian financial services market is too advanced for the mobile money model seen in Kenya. Everything you can do with mobile money you can do with a Tier 1 bank account. Therefore, why go backwards when people can be properly financially included now? Customers can even open these accounts remotely through USSD.

Guarantee Trust Bank: The bank has launched a mobile money wallet product when they were awarded an MMO license. After extensive research and customer surveys it was discovered that customers did not want a mobile money wallet product, but mobile banking connected to an underlying bank account. Therefore, the value proposition for MNOs entering the market now may not be very strong.

Innovectives: MNOs are already preparing for the day that they are licensed as MMOs. MTN already have infrastructure on the ground. Should the market open up they will be able to start immediately. Airtel have been allowing banks to use their infrastructure to test the mobile money solution. They are ready to take their product to market.

9Mobile: All MNOs were asked a number of questions by NCC and 9Mobile has prepared a position paper on why the MMO market should be opened up to MNOs. The NCC will use these submissions and present the case to the CBN. This will result in an MOU between the two regulators setting out the roles and responsibilities of each regulator. Therefore, there are industry consultations currently taking place and the regulatory change is not happening in isolation.

Source: Stakeholder interviews and meetings (February 2018)

4.1.3.6 Super Agents

In 2015, the CBN issued a Regulatory Framework for Licensing Super Agents in Nigeria that allows banks and other regulated financial service providers to leverage Super Agents to extend access to financial services among underserved groups. Super Agents are expected to have platforms that enable interoperability by allowing integration into the NIBSS infrastructure. To date, the CBN has licensed Interswitch Financial Inclusion Services Ltd, Capricorn Digital and Innovectives and to perform Super Agent functions in Nigeria.

Interswitch Financial ITnclusion Services Limited (IFIS Ltd) is a subsidiary of Interswitch and has also recently been licensed by CBN as a Super-Agent. IFIS Ltd has been positioned to serve as the interconnect point and infrastructure for integrating and delivering electronic payment services to the unbanked, under-banked and banked. Interswitch Financial Inclusion Services Limited work with financial service providers, merchants, billers, and other organizations that aim to increase their efficiency and outreach through their network of human service interfaces for secure financial transactions.

¹¹⁵ A Super Agent is a corporate entity that has been contracted by an agent banking service provider (MMO, DMB or MFB) and thereafter may subcontract other agents in a network while retaining overall responsibility for the agent relationships. In other words, this new player will take on the agent management as its core business, while the operator focuses on the core business of providing financial services. This can be a better strategy for Operators who seem to struggle with managing agent banking relationships in the first place.



In April 2017, the Divisional CEO of IFIS Ltd, Mr. Mike Ogbalu announced that Nigerians can now make payments at 5100 Quickteller Paypoint agents in spread over 32 states in Nigeria. Launched in 2016 by IFIS Ltd, Quickteller Paypoint was designed to take financial services to the underserved.

Everybody can access and use Quickteller Paypoint services – from students to artisans, traders, the self-employed, professionals and everyone who requires access to basic financial services. Quickteller Paypoint is an extremely good example of a successful agency banking initiative, however, this agency banking network is not exclusive to a single bank and in fact, a person wanting to open a bank account at any bank can do so at a Quickteller Paypoint. The following services are available at any Quickteller Paypoint:

- Airtime recharge (all networks);
- Bills payment/settlement (electricity bill, water bill, Waste bill, DStv, GOtv, Startimes, actv, Local and State government levies/taxes, estate permits, etc.);
- Funds transfer (sending money to, and receiving money from, any person nationwide);
- Account opening with any bank;
- Payments for insurance premiums, airline tickets, embassies, etc.;
- Deposit of funds (cash-in) into own or a third-party account;
- Withdrawal of funds (cash-out) from own account.

Agents are classified into different classes. Individuals and unregistered businesses (mass/umbrella agents) fall under the Classic category. MSMEs, mom-and-pop shops, salons, supermarkets, chemist shops, grocery stores, etc. fall under the Standard category; while bigger businesses like petrol stations, pharmacy chains and Quick Service Restaurants (eateries) fall under the Prestige category. Institutions with structures like MFBs also fall under the Prestige category. Registration as an agent appears to be quite a simple exercise although anyone wanting to become an agent must be able to commit a minimum of N10,000 to this business. (This amount is not a fee, it is trading capital). 116

Innovectives: 117 This Fintech Company offers a number of innovative products and services to the Nigerian market. As a NIBSS approved aggregator, Innovectives allows merchants and service providers to accept debit card and bank transfers without having to setup a merchant account with a bank or card association. Additionally, Innovectives offer several acquiring solutions. The company acquires local and foreign card transactions at all merchant locations, be it at physical Point of Sale (POS) and Kiosk or virtually on the Internet. The mobile POS (mPOS) solution, KeshPOS powered by SmartPesa conforms to EMV and MasterCard's Terminal Quality Management requirements and has been certified by the Nigeria Interbank Settlement System [NIBSS] for the acceptance of card payments within the Nigerian financial system. This 100% secure payment channel accepts both local and foreign cards issues by Verve, 3Line, Genesis, EuroPay, MasterCard, Visa and China UnionPay as well as magnet stripe (magstripe) cards, smart cards (chip & pin) and contactless cards. As a MasterCard Payment Facilitator,

Any adult citizen carrying out legitimate small business can be an agent, once he/she meets the minimum requirements which are: 1) get identified as an agent potential or contact us to indicate interest; 2) have a valid business location that's visible or has current patronage footfall (rented or owned); 3) provide personal and business data and fill out our agent registration and contract form; 4) provide copies of both proof of ID and location documents (hard copy and scanned); 5) pay (to an IFIS-designated bank account) the initial capital which funds the agent's trading account; and 5) get trained, run test transactions and complete the setup (merchandise location).

http://www.innovectives.com

¹¹⁸ KeshPOS powered by SmartPesa is fundamentally different in that the key intelligence is located in the smartphone (App) and the backend processing system located in the financial institution's data center. The simpler mPOS terminals require less expensive hardware (reducing

Innovectives provides an aggregated merchant account and underwrites other merchants within our account. Based on the MasterCard rePower Load Network, this service provides consumers with a convenient way to add funds to their eligible MasterCard prepaid account. The Network leverages existing MasterCard Network infrastructure to connect various points of deposit, such as the merchant point of sale (POS), an ATM, or a mobile device, with issuers. The Network (i) Provides a way for issuers to extend cash load capabilities for their card program; (ii) uses existing MasterCard processing and transaction codes; (iii) supports standard next-day settlement of funds.

Innovectives is promoting financial inclusion by providing the unbanked and underbanked with access to savings accounts, loans, health insurance as well as convenient and secured ways to pay bills and receive money within their locales. Their financial inclusion products include (i) Kesh-Africa – This is an advanced and multi-faceted mobile financial technology platform that offers innovative, cutting edge and convenient financial inclusion and intermediation services on the continent and (ii) Private Label Cards – This is a reloadable companion card to our mobile wallet system or bank account with our commercial bank partners and it provides an important advance on the well-known m-Pesa style mobile money offerings by enabling account access within the formal banking system.

As a CBN licensed Super Agent; Innovectives use technology and work with agents to provide easy access to financial services such as savings, withdrawals, bill payments and insurance to banked, unbanked and under-banked segments of the population. The company operates the following types of Agency services: Over-the-counter (OTC) Agents; Point of Sale & Transaction (POST) Agents; Self-service Agents – ATMs and Kiosks; Cash Handling Agents – Service Centers Cashiers, Revenue Collectors, and Thrift Collectors.

Capricorn Digital: Capricorn Digital Limited is a digital solutions and distribution company that supports the growth of agents, merchants, entrepreneurs and/or small and medium sized businesses through the efficient and effective distribution of digital products and services utilizing its extensive distribution network across Nigeria. Capricorn Digital focuses on products and services that can be distributed in a digital format and works with merchants to create the most efficient and effective means of distributing those products and services, thereby reducing time to market and driving sales.

4.1.4 RETAIL PAYMENTS IN NIGERIA

The 2007 International Bank for Reconstruction and Development / World Bank report, *Reforming Payments and Securities Settlement Systems in Latin America and the Caribbean* notes that, "a wide range of payment instruments is essential for supporting customers' needs in a market economy. A less than optimal supply of payment instruments may ultimately have an impact on economic development and growth. Moreover, the safe and efficient use of money as a medium of exchange in retail transactions is particularly important for the stability of the currency and a foundation of the trust people have in it. As the Committee on Payment and Settlement Systems (CPSS) publications have shown, the use of retail payment instruments differs in industrial countries both within and among the countries considered.

This is due to a variety of factors, including cultural, historical, economic and legal. However, some common trends may be observed, namely the continued primacy of cash (in volume terms) for face-to-face payments; growth in payment card use; increased use of direct funds transfers, especially direct debit transfers, for remote payments; and changes in market arrangements for providing and pricing retail payment instruments and services delivered to end users."

capital costs) and don't reveal secrets if hacked/lost (reducing maintenance and distribution costs). Furthermore, Apps and servers can be continually and remotely updated to allow for new services or otherwise improve the offering to merchants and end users.

The Government of Nigeria and the CBN have actively promoted several policies and used a number of mechanisms including, public information campaigns, point-of-sale guidelines, restrictions on cash-in-transit services, and substantial fees to dis-incentivize cash withdrawals and deposits and the introduction of a National Electronic (e-ID) Card with payment capabilities to incentivize individuals and businesses to move away from cash and checks and to embrace electronic payments in several forms. Despite this, thousands of Nigerian remain financially excluded and do not make use of any form of electronic payment mechanism / payment instrument.

4.1.4.1 Bank accounts

Basic bank accounts are the cornerstone for providing electronic payment services. Everyone in Nigeria has a need to make and receive payments in their daily lives; however, many remain financially excluded. Banknotes and coins (hereinafter "cash") are one of the instruments available for this purpose, although they are not well suited for some payment transaction types. Electronic payment services have been developed by banks and a variety of other PSPs both to address the limitations of cash as a payment instrument and also to provide new opportunities for increased speed, safety, convenience and other relevant features in a rapidly changing world. Despite several banks offering innovative electronic payment services including access to electronic channels, research conducted for the purpose of preparing this report indicates that Nigeria is still very much a cash based society.

Having access to and the usage of a transaction account to facilitate payments and to store value is recognized as the initial step in becoming fully financially included, which involves having access to the whole range of financial products and services that meet the user's needs. For individuals, for example, credit, insurance, savings and investments are, together with transaction accounts, key elements of the overall package of financial services. Some transaction accounts under certain circumstances facilitate access to broader financial services.

It is now recognized that access to basic transactional accounts benefit account holders as well as the economy at large. Account holders can benefit from lower-cost money transfers and convenience from the safety that regulated systems offer. Using accounts to pay salaries; government social payments and other government payments improves transparency, accountability and the efficiency of the overall economy.

The CPMI/WBG state that the broader adoption and usage of transaction accounts and in general higher levels of financial inclusion can positively affect a country's national payments system (NPS) from three perspectives:

- 1. The continuous modernization and improvement of payment systems and services requires significant upfront investments, and a crucial element to determine whether such investments are financially viable is the frequency or intensity with which the upgraded/new systems and services are expected to be used. Broader adoption and usage of transaction accounts increases the viability of such investments.
- 2. The channeling of larger volumes of payments through transaction accounts increases the overall efficiency of the NPS. As such, as the usage of cash decreases, the overall cost of making payments to society as a whole may decrease as well.
- 3. Payments-related legal reforms that originated in financial inclusion goals can also trigger positive developments for the NPS as a whole. All these positive effects can, in turn, further improve conditions for access to and usage of transaction accounts, therefore resulting in a virtuous circle.

The Nigerian National Bureau of Statistics provided a 2016 population estimate of 193,392,517 persons. 119 2016 data published by NIBSS indicates that there were only 96 million recorded bank accounts in Nigeria and of these, only 65 million were active. This means that only 33.61% of the population actively transact through a bank account.

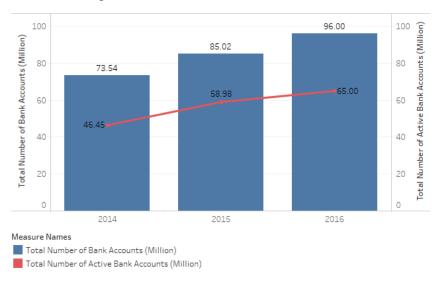


Figure 13: Number of bank account v number of active bank accounts (2014 – 2016)

As discussed below, to address the need for standard identification, the CBN introduced the Bank Verification Numbering (BVN) Policy in 2014. While the BVN system that was launched to address the lack of ID documents in Nigeria and has successfully enrolled about 30 million unique bank account holders, it is yet to gain general acceptance amongst the underbanked and unbanked with 1.2 and 1.3 percent enrolled respectively. 120

While a good initiative, several stakeholders argue that the BVN requirement is contrary to the financial inclusion objectives in Nigeria, especially for Tier 1 accounts. Contrary to the CBN's policy stance to promote financial inclusion and encourage the use of electronic payment mechanisms, the actions of the CBN as recently reported in a Premium Times article may unfortunately undo a lot of the progress achieved to date. ¹²¹ As reported by Ogundipe, "the Abuja Division of the Federal High Court has granted a request by Attorney General of the Federation, Abubakar Malami, for a temporary forfeiture of all funds held in bank accounts not linked to BVNs — and whose ownership could not be absolutely identified. Also to be seized by the Nigerian government are funds held in bank accounts without sufficient know-your-customer credentials, court documents seen by Premium Times said.

The introduction of Unstructured Supplementary Service Data (USSD)¹²², sometimes referred to as "Quick Codes" or "Feature codes" to the Nigerian banking system made it a lot easier to transfer money and make payments. USSD code allows anyone to make financial transactions without access to the

http://nigerianstat.gov.ng/elibrary

Lagos Business School (2017) Digital Financial Services in Nigeria: State of the Market Report 2017.

See Ogundipe S (2017) Nigerian Govt takes Ownership of Funds held in Bank Accounts not Linked to BVNs. 21 October 2017. Online: https://www.premiumtimesng.com/news/headlines/246852-nigerian-govt-takes-ownership-funds-held-bank-accounts-not-linked-bvns.html

¹²² USSD is a communications protocol used by GSM cellular telephones to communicate with the mobile network operator's computers. USSD can be used for WAP browsing, prepaid callback service, mobile-money services, location-based content services, menu-based information services, and as part of configuring the phone on the network. USSD messages are up to 182 alphanumeric characters long. Unlike Short Message Service (SMS) messages, USSD messages create a real-time connection during a USSD session. The connection remains open, allowing a two-way exchange of a sequence of data. This makes USSD more responsive than services that use SMS.

internet. Customers are now able to perform a number of different transactions through USSD (Table 8). 123

Bank	USSD Code	Open new account	Recharge airtime from registered number	Recharge airtime from other mobile numbers	Transfer money to account at same bank	Transfer money to account at another bank	Bill Payment	Account query
Access Bank	*901#	□ ¹²⁴	*901* Amount#	*901* Amount* Phone Number#	901*1* account number# ¹²⁵	*901*2*acco unt number# ¹²⁶	*901*3# ¹²⁷	*901*5# ¹²⁸
Zenith Bank	*966#	□ ¹²⁹	*966*Amount *Phone Number#			*966* Amount* account number#	*966*7* Amount* Customer ID# ¹³⁰	*966*00#

Table 8: Example USSD bank code and payment services

Each bank in Nigeria has its own specific code which can used by only their customers. It is a common misdemeanor that what has become known as "USSD banking" in Nigeria equates to mobile money transfer as USSD codes are typically linked to an underlying bank account from which the customer transacts. What "USSD banking" refers to is mobile banking not mobile money (e-Money). This USSD codes only work if customers dial them from the phone number that is connected to their bank account. Typically, they can be used to recharge airtime on any network in Nigeria. Airtime recharge transactions are free of service charges.

Remembering each banks code and sequence for each transaction type can be a challenge, especially for those who are unfamiliar with mobile phone technology. This issue was raised by Guarantee Trust Bank who stated that, "today there are more than 20 banks each with its own USSD code. There is a need to create an interoperable platform that is seamless for customers to use. It is cumbersome and difficult for customers to remember all of these different codes."

Stakeholder interviews conducted during February 2018 reveal that there is a substantial amount of tension in the market with respect to the manner in which USSD codes are priced. There also appears to have been a false perception created that opening an account through USSD does not require the verification of identity in the bank branch (Box 9 below).

¹²³ See https://specspricenigeria.com/nigerian-banks-transfer-code

For new users, dial *901*0# to register on the Access Bank Mobile Banking portal using your existing bank account, or opening a new account with your BVN number.

Service charge N20.

¹²⁶ Service charge N52.50 (N50 service charge + N2.50 VAT).

For general bill payment transactions, dial *901*3# and choose your desired option from the prompt that shows up. You can use this service to pay for bills like DSTV subscriptions and Smile / Swift internet charges. General bill payment transactions attract a service charge of N100. For payments to PayWithCapture merchants, dial *901*3*AMOUNT*MERCHANT ID#. You can get the merchant id by asking the appropriate merchant. For these transactions, you would need One Time Passwords (OTP) and you can generate one by dialing *901*4*1#. OTP generation and PayWithCapture transactions don't attract any transaction fees.

You can check your Access Bank account number by dialing *901*5# from your registered phone number. You will need the last four digits of your BVN to successfully perform this transaction.

You can dial *966*0# to create a new Zenith Bank account number.

To pay DSTV and PHCN bills, dial *966*7*Amount*Customer ID#. To pay other Zenith Billers, dial *966*6*Biller code*Amount#.

Nigerian Communications Commission (NCC): USSD codes are an area of pain for MMOs and banks in their relationship with MNOs. "You are my competitor but you are providing me with a core structure". NCC are of the opinion that a study should be carried out about the value of a 1-minute USSD service in order to determine its appropriate price and potential margin.

Fidelity Bank: USSD products have been the most successful and most people know about "USSD banking" in Nigeria.

Ecobank: There are problems with the charges for USSD. MNOs are hiking up charges for banks and sometimes charging as much as 100%

Guarantee Trust Bank (GTB): Today there are +-20 banks with USSD codes. There is a need to create an interoperable platform as customers have to remember all these different codes.

Access Bank: If you open an account through USSD, you can use it freely for two weeks but thereafter, you need to go to the bank and have your photograph and fingerprints taken.

GLO employee: "It was very easy to open a bank account using USSD (Zenith Bank 966 USSD). I received a conformation SMS that my account had been opened and providing my new account number. I then moved N10, 000 to this new account. However, when I tried to buy airtime, I was informed that I had to go to the branch to complete the account opening process. This defeats the point."

PAGA: One of the drivers for change in the market is USSD. Up to 2017, nobody had reliable access to USSD (used to fail all the time). Now things have changed substantially. NCC has issued PAGA with a universal USSD.

Innovectives: Super Agents do not have their own USSD codes.

PaySolar: Payments can be made via *737#, QuickTeller, Paga, and PayPal. We experienced problems when negotiating around USSD. The Payment Company said they wanted at least 60%. Pricing is a problem.

Source: Stakeholder interviews and meetings (February 2018)

4.1.4.2 Checks

In 2009, the CNB limited the value of check payments, which were commonly used by businesses and government. All banks were instructed through Circular BOD/DIR/CIR/GEN/01/106 to process payments of N10 million or more through the Central Bank Inter-Bank Funds Transfer System (RTGS) and the Nigeria Inter-Bank Settlement System Electronic Funds Transfer (NEFT) from 1 January 2010.

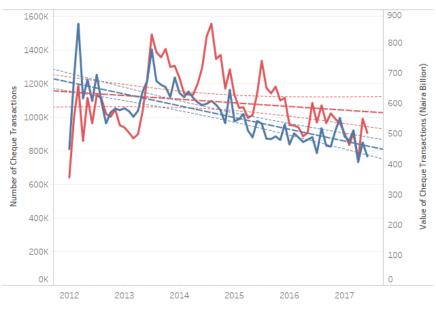


Figure 14: Value and volume of checks decline

Measure Names

Number of Cheque Transactions

■ Value of Cheque Transactions (Naira Billion)

Data available on the CBN website (January 2012 – June 20117) shows that although the number of checks processed on a monthly basis between January 2012 and January 2014 actually increased, the total value paid out started to rapidly decline from January 2013.

As part of the Cashless policy measures, the encashment of third party checks above the local threshold of N150, 000 was prohibited in 2012 and a later Circular instructed banks to ensure the implementation of the limit by June 2013.

As part of the Cashless policy measures, the encashment of third party checks above the local threshold of N150, 000 was prohibited in 2012 and a later Circular BPS/DIR/GEN/CIR/01/001 instructed banks to ensure the implementation of the limit by June 2013 across the entire nation.

These policy measures seem to have been a resounding success, as, looking at the data, it is remarkable that the number of checks, which stood at 1,558,097 checks with a value of N 608 billion in August 2014 has decreased to just 908,035 checks with a value of N 425 billion (June 2017).

It must however be remembered that it is more likely than not a change in behavior of corporates and large business which is reflected in the declining use of checks. This data tells us very little about whether the transactional/payment behavior of small businesses and the average man in the street have changed that much.

4.1.4.3 ACH credits and debits and NIP instant payments

Bulk payments

Maximum limit per payment

Perhaps a better indication of the success and growth of electronic payments in Nigeria is to compare the number of checks presented and processed with the volume of EFTs processed through the NIBSS NEFT and NIP systems. Although NIP and NEFT are both electronic funds transfer systems, there are several important differences between the two systems (Table 9 below).

NIP **NEFT** Yes Yes Requires an underlying bank account Computer / internet banking Computer/Internet banking Access device / channel Mobile phone / android application Must be activated with a token ID & password Authentication Name and account number Name and account number Beneficiary details to be entered Debited but funds not transferred Debited and funds transferred Senders account immediately immediately Batch Single File Up to 24 hours Within 10 mins Time to clear Yes

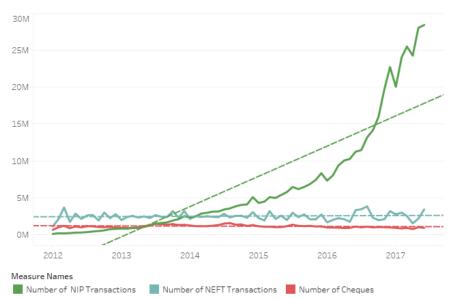
Table 9: Differences between NEFT and NIP

As depicted in Figure 15, the number of payments processed through the NIBSS instant payment system have increased exponentially. When compared to the relatively static, although also declining slightly volumes through NEFT, it is quite clear that the NIP system has met a need which was not being met by the various payment options available to citizens and business before the introduction of NIP.

N 5 million

N 100 million

Figure 15: Number of checks v volume of NEFT and NIP payments



It can be argued that the growth of NIP has helped to build a new standard among Nigerian consumers. This is due to the fact that NIP has removed the 24 hour waiting period and funds are available in the beneficiaries account almost immediately. Instant payment systems are being deployed at a rapid rate around the world and can benefit financial institutions (FIs), merchants, consumers and society.

This is achieved by offering enhanced visibility into payments, by enabling better cash management and by helping businesses better manage day-to-day operations by improving liquidity. The liquidity improvement can be especially impactful to small merchants who may be used to waiting days for their settlement, possibly creating a positive impact on their cash flow and daily sales outstanding (DSOs). ¹³¹

4.1.4.4 E-bill payments

Recent data published on the Nigerian Interbank Settlement Systems (NIBSS) website shows that between December 2015 and September 2017, although the value of e-BillPay transactions showed a positive upward trend, the volume of e-BillPay transactions has shown a very clear downward trend. In September 2017, 61.66 thousand e-BillPay transactions were processed with a value of N 40.17 billion.

¹³¹ Deloitte (Undated) Real-time Payments are Changing the Reality of Payments.

Neasure Names

Nalue of e-Bills Pay Transactions (Iv Billion)

Volume of e-Bills Pay Transactions (Iv Billion)

Volume of e-Bills Pay Transactions (Thousand)

Figure 16: E-bill payments

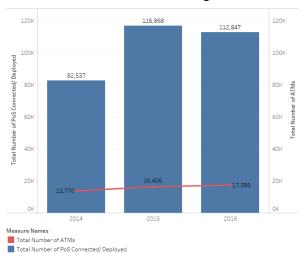
4.1.4.5 Card payments

There are currently four card schemes in operation in Nigeria – Visa, MasterCard, American Express and Verve. All organizations offering payment switching services must, by policy, connect to the Nigerian National Switch to ensure interoperability across different schemes. As noted by the CBN, the overwhelming use of cards IN Nigeria is for ATM withdrawals and the strong growth in ATM transactions indicates a migration to the formal banking sector, even though the resulting payments may be cash. The use of cards is predominantly by debit card as there is still a limited credit card culture in Nigeria.

133 *Ibid*.

¹³² Central Bank of Nigeria (2013) Payment System Vision 2020.

Figure 17: Number of ATMs and PoS devices

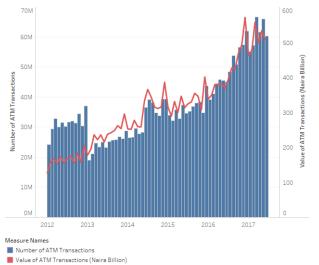


The physical proximity of users to service providers is widely considered a key factor in financial inclusion.

ATM penetration in Nigeria is still very low with only 17,398 ATMs having been deployed country wide (2016) to serve a population of 193,211,123.
NIBSS data indicates that 112,847 PoS devices were in the market in 2016.

ATM transactions provide a proxy for cash usage, at least for individuals who are paid into bank accounts from which they then have to withdraw. If these financially included individuals, a relatively small group in the economy, were using electronic payments more and displacing the need for cash, one would expect transaction volumes at ATMs to decline or to grow less quickly." However, as shown in Figure 18 below, ATM usage has steadily increased.

Figure 18: Value and volume ATM transactions

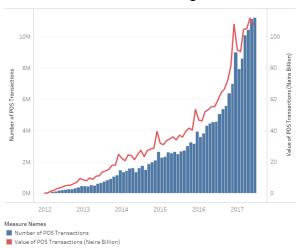


The value and volume of ATM transactions has shown a positive trend over the past six years. In May 2017 alone, 65,939,434 ATM transactions were made and N553.6 billion withdrawn.

The current population of Nigeria is 193,193,649 as of Monday, December 18, 2017, based on the latest United Nations estimates. 50.2 % of the population is urban (95,764,092 people in 2017).

Better than Cash Alliance (2015) Nigeria's "Cashless" Policy p.

Figure 19: Value and volume of PoS transactions



While the value and volume of PoS transactions has also shown a positive upward trend with 1,1133,486 transactions being made in May 2017 with a value of N111.6 billion, the number and value of ATM transactions continues to dwarf POS transactions.

MasterCard Advisor's Cashless Journey report, released in 2013 found that less than 1% of consumer payments at the point of sale were electronic, placing Nigeria in the "incipient" category alongside a number of other countries with higher per-capita income, such as Colombia, Mexico, Thailand and Malaysia.

On November 1, 2016, the CBN had issued a circular with the reference BPS/DIRIGEN/CIRI03/004, to stakeholders on the discontinuance of the Merchant Service Charge (MSC) by May 1, 2017, and its subsequent replacement with the implementation of the interchange regime. However, in April 2017, in a circular signed by the Director of Banking & Payments System Department at the CBN, Mr. Dipo Fatokun, the bank informed "all stakeholders that the implementation of the interchange regime has been suspended, until further notice."

4.1.4.6 Mobile Money

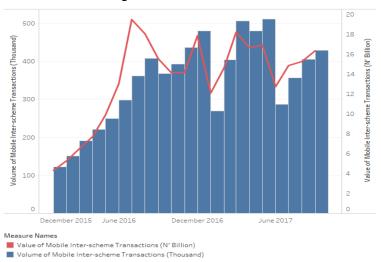
Expanding mobile telephone network coverage, increasing levels of mobile usage (prepaid and postpaid) and the rollout of innovative payment and mobile money transfer products in several African countries provide viable opportunities for financial inclusion. Many institutions are piloting the use of prepaid payment cards and the mobile phone as a means of providing financial services to the previously financially excluded. While not a bank account in the traditional sense, mobile wallets and prepaid card products (e-Money) provide individuals with a safe electronic store of value and electronically initiated and accepted payment transactions and funds transfers. Mobile money has however failed to gain much traction in Nigeria and has not contributed much to achieving the CBN's cashless or financial inclusion policies.

Data published by NIBSS on the value and volume of inter-scheme mobile money transactions shows that while the volume and value of mobile money transactions has shown positive growth over the last three years, the expected transformational potential of mobile money has not been realized in Nigeria.

 $^{{\}bf See} \,\, \underline{\bf https://www.businesspost.ng/2017/04/20/cbn-indefinitely-suspends-implementation-interchange-feed for the control of the cont$

The policy was meant to be effected by merchant acquirers, card issuers, card schemes, mobile money operators, PTSPs and PTSA.

Figure 20: Value and volume of inter-scheme mobile money transactions



In September 2017, only 428.4 thousand transactions were performed with a value of N16.8 billion. The EFInA Access to Financial Services in Nigeria (A2F) 2016 Survey also found that mobile money usage is still very low and has not changed significantly since 2014.

Mobile money services are mostly used to send money (P2P) transfer (70.8%), followed by airtime purchases (40.6%) and bill payments (17.1%).

4.1.4.6.1 Building Nigeria's Agent Network – The Shared Agent Network Expansion Facilities

The Shared Agent Network Expansion Facilities (SANEF) is a joint initiative of the CBN, several Deposit Money Banks (DMBs), licensed mobile money operators (MMOs)¹³⁸ and super agents and involves the establishment of a 500,000-strong agent network over the next few years. It also places higher target priorities on the geopolitical zones in Northern Nigeria where financial exclusion is predominant. Nigeria currently has a very poorly developed agent network. While precise numbers are not publically available, according to the CBN, there were only 11,000 mobile money agents in 2017. When compared with other countries such as Ghana (140,000 agents) and Kenya (165,000) it is clear that Nigeria has nowhere near enough agents to make an agency banking / mobile money agency strategy succeed.

This new initiative aims to on-board 500,000 agents who will provide basic financial services, such as Cash-in, Cash-out, funds transfer, bill payments, airtime purchase, government disbursements as well as remote enrolment on BMS Infrastructure (BVN) to an estimated 50 million Nigerians that are currently under-banked. 140

Speaking at a press conference held at the Chartered Institute of Bankers of Nigeria (CIBN) in March, 2018, the Managing Director/CEO of GTBank Plc, Mr. Segun Agbaje stated that, "under the agreement, 10 licensed mobile money operators and super agents are expected to immediately deploy financial services agents' outlets in under-served urban and rural areas in Nigeria, with priority in the Northern geo-political zones where financial exclusion is most predominant. The approved CBN-Bankers Committee's roll-out ratio is as follows: North East (30%); North West (30%), North Central, 20%, South (7.5%); South East (7.5%); and South West (5.0%)." Driven by the need to deepen financial inclusion and bring financial services to the un-banked, the Managing Director/CEO of UBA Plc, Mr. Kennedy Uzoka, stated that, "according to the plan, the CBN and deposit money banks will over the next few months roll out new initiatives, products and services to accelerate and deepen financial inclusion in

141 *Ibid.*

Some of the prequalified CBN licensed non-bank operators include Capricorn Digital Limited, e-Tranzact Limited, Innovectives Limited, Inlaks Limited, Interswitch Financial Inclusion Services Limited, Paga Tech Limited and Unified Payments Nigeria Plc."

Taiwo I and David-West O (2018) Building Nigeria's Agent Network: The Journey Begins

¹⁴⁰ Komolafe B (2018) Financial Inclusion: CBN, Banks Target 60m Nigerians with 500,000 Agents' Network

Nigeria. "Over the next three years, Nigerian banks aim to on-board and formally bank 60 million additional Nigerians, an average of 20 million yearly as well as enroll 40 million Nigerians for BVN." 142

4.1.5 Interoperability Challenges

Interoperability is generally understood to describe the ability of an end-user dealing with one bank or financial services provider such as an e-Money issuer to exchange a transaction with an end-user who is dealing with a different bank or financial services provider. Interoperability may be achieved either through participants all using the same system, or through inter-system networking agreements (Box 10).

Box 10: Interoperability of payment instruments

"Interoperability of payment instruments is achieved when users are able to pay through their instrument of choice at any terminal present in the country, regardless of such terminal being affiliated directly with the issuer of the said payment instrument. For example, terminals may include ATMs, POS terminals at merchants' premises, unmanned kiosks, and, in a conceptual sense, the websites of ecommerce merchants

There are a number of means to achieve the interoperability of payment instruments across a national payment system. In essence, all require that banks and other providers of payment instruments and terminals be somehow interconnected to each other. This can be achieved by participants being directly connected to each other on a bilateral basis or by interconnecting to some sort of multiple infrastructure. This infrastructure may be domestic or international. It may also consist of a single infrastructure or of multiple infrastructures interconnected to each other. Finally, hybrid models also exist.

In a bilateral arrangement, the authentication and clearing of payments flowing between two financial institutions is handled by the institutions themselves. Multilateral clearing arrangements are based on a set of procedures whereby financial institutions present and exchange data and/or documents relating to funds transfers to other financial institutions under a common set of rules. The following notable differences can be identified between bilateral and multilateral arrangements:

Bilateral arrangements do not typically provide efficient solutions when large volumes of payments need to be processed by a large number of participants (i.e. issuers and acquirers). Rather, multilateral arrangements make the processing of payment instructions more efficient by coordinating and simplifying the exchange of payment instructions across participants and operating communications networks and by providing processing services.

In principle, multilateral arrangements could make the access of a new entrant onto the market easier, as a single link needs to be established by the new participant with the central entity. By contrast, where bilateral arrangements are in place, a new entrant needs to negotiate conditions with each existing participant, hence creating a potential barrier to entry.

Lastly, multilateral netting allows participants to minimize the liquid balances necessary for settlement.

"Payment switch" in general refers to the technical infrastructure, on top of which there are business rules, procedures, branding, and products, defined as a "scheme". A "national payment switch" is an infrastructure mandated to process all card payments and also, in some cases, mobile and internet payments. A country can have one or more switches that operate nationally. National payment switch(es) are a common way to achieve interoperability. These switch(es) can play a critical role in a retail payment system by facilitating the establishment of direct connections between transactional accounts of multiple payers and payees operated by diverse providers. Direct connections enhance transactional efficiency and reduce friction costs. In this way, national payment switch(es) enable fungibility and ease of use of money balances held in electronic form. In turn, this propels universal financial inclusion and access.

Source: World Bank (2017)

In Nigeria, interoperability has been mandated. Mobile Money Operators (MMOs) are also required to connect to the National Central Switch (NCS) for the purpose of ensuring interoperability of all schemes in the system. He expected the recently issued Guideline for Bill Payments (2017) seeks to promote the implementation of integrated bill payment systems that leverage the drive for interoperability and access to payment system infrastructure through all existing channels in the system. However, a recent EFInA study entitled *Interoperability among Mobile Money Operators (MMOs) in Nigeria*, states, "Though interoperability is a key requirement for MMO licensing in Nigeria, some MMOs have restricted their

¹⁴² Ibid

¹⁴³ Circular on Interoperability and Interconnectivity of the Payments System Infrastructure in Nigeria (2010).

¹⁴⁴ Regulatory Framework for Mobile Money in Nigeria (2015).

platforms from interacting with the platforms of other providers, thereby constraining the flow of mobile money transactions as well as uptake of mobile money service." In 2016, a sub-committee of EFInA's Mobile Money Working Group, comprised of the CBN, NIBSS, 13 mobile money operators, and EFInA, found that 33 of 44 mobile money interoperability transactions tested (75%) were unsuccessful. In particular, the test identified the following set out in Table 10 below.

Table 10: Technical errors – interoperability test

Problem	Error
Some MMOs do not have other MMOs' NIP profiles listed on their system	Unknown Bank Code Error
Some MMOs have not adhered to the NIBSS xml message specification	Format Error
Some MMOs do not respond to the 'sending MMO request'	Transaction Timed Out
Some transactions do not 'get' to NIBSS, even when the NIP platform was available	Network Hitches

This failure rate is observed partly because not all MMOs have deployed robust supporting technology. In some cases, MMOs may be deliberately non-compliant, only opening up their systems for full interoperability during the CBN audit periods, which occur once every two years. Some of the reasons that mobile money operators are reluctant to embrace interoperability include:

- Fear of not recouping substantial investments made
- Uncertainty about the effects of interoperability
- Anxiety about giving up competitive advantage
- High cost of becoming interoperable
- Loss of potential customers
- Perceived immaturity of the industry
- Unwillingness to share assets/perceived investments with other parties.

Currently in Nigeria, the industry structure supporting financial inclusion is fragmented with numerous operators who are promoting proprietary branded digital financial services (DFS). Transaction exchanges between operators, although technically feasible, are rare. This gap limits adoption of DFS while increasing network complexity. Research undertaken by the Lagos Business School on the current state of DFS in Nigeria found that the lack of common data/information exchange standards in Nigeria currently acts as a disincentive to interoperability. Stakeholders interviewed for the purposes of this research suggested that the regulators should prescribe a specific and open application programming interface (API) to be adopted by the various stakeholders within the DFS space. To achieve this, a memorandum of understanding (MoU) between the FSRCC and other stakeholders within the DFS space to adopt common standards should be drawn up.

The views of several key stakeholders interviewed during February 2018 on the interoperability currently being faced in Nigeria are set out in Box 11 below.

Box 11: Stakeholder views on interoperability

Central Bank of Nigeria (CBN): In a meeting held at the Central Bank of Nigeria (CBN) on 8 February, 2018, the Bank confirmed that while interoperability is mandated by law and regulation, mobile wallet to mobile wallet interoperability remains a problem. CBN

http://thenerveafrica.com/14745/interoperability-magic-bullet-mobile-money-potential-nigeria/

confirmed that it had recently sent queries to several Mobile Money Operators (MMO) enquiring as to why, despite their being bi-lateral agreements in place between them, their mobile money platforms were not interoperable. CBN stated that upon receiving their responses, harsh sanctions will be applied if it is proven that they do not allow interoperability. The apex bank also confirmed that once the new Mobile Money Law is promulgated, the Bank will adopt a zero tolerance attitude and will impose sanctions on any party that breaks the law in the future. Account-to-Account (A2A) interoperability (mobile wallet to bank account) is reportedly not an issue.

Nigerian Communications Commission (NCC): the NCC confirmed in a meeting held in Abuja on 16 February, 2018 that as part of the work currently being undertaken on a new legal and regulatory framework for MNO direct participation in the National Payment System (NPS) as MMOs that several important issues were being worked on and discussed. Chief among these are: a) branding; b) interoperability; c) quality of service and d) integrity of the network. Technical interoperability is currently the focus.

Nigerian Inter-Bank Settlement System (NIBSS): NIBSS confirmed that while technically in the backend there is interoperability, in reality, this is not really happening. Despite the fact that interoperability is mandated, the Regulator has not been very pro-active in enforcing this. This is despite the fact that NIBSS sends a monthly report to the CBN that shows exactly what is going on. A practical issue highlighted by NIBSS was that on several dropdown menus (for MMO transfer platforms), there isn't even the option to send money to customers of other MMOs.

Guarantee Trust Bank: GTB recommended that in order to advance the financial inclusion agenda in Nigeria that the interoperability of platforms and systems needs to be closely examined, revisited and tested.

Globacom Limited (GLO): GLO advanced the opinion that interoperability at the scheme, platform and agent level is not happening in Nigeria. This may be due to the fact that Mobile Network Operators (MNOs) are not permitted to apply for MMO licenses. It was suggested that should MNOs be allowed to participate directly as MMOs, that this in itself would force interoperability.

Pagatech: Paga referred to their having been a "number of bugs" in the past when it came to MMO - MMO interoperability.

Innovectives: Innovectives referred to a situation of "one-way interoperability". The cash-in of funds is interoperable but cash-out is not. This is based on the fact that NIBSS does not have the mandate to debit any bank account without sharing APIs with each and every bank. As 70% of agent transactions are cash-out transactions, this is a problem. Innovectives stated that NIBSS, the CBN and Bankers Association are talking about a cash-out API (minimum value) which would tie all banks together.

Source: Stakeholder interviews and meetings (February 2018)

4.1.6 Information and Communications Technology in Nigeria

In 2017, the National Information Technology Development Agency (NITDA) introduced a 3-year ICT Roadmap (2017 – 2020) and proposed for implementation, cutting across governance, policy, legal and regulatory framework, industry and infrastructure as well as capacity building. The roadmap is aligned with the priorities of the Federal Government's Economic Recovery and Growth Plan (ERGP) which targets development of standard ICT practices. It seeks to implement the 2012 ICT Policy but goes further with the introduction of some novel ideas and proposals, such as the National ICT University and a specialized ICT Development Bank. Furthermore, the roadmap is designed to entrench ICT across all economic sectors, increase ICT utility in national security management, ensure efficient and affordable ICT infrastructure, to increase ICT penetration across all socioeconomic levels and increase active mobile broadband subscription coverage. The roadmap also seeks to encourage local ICT production (hardware and software), to enhance local capacity, reduce import dependence and generate foreign exchange through exports to regional and continental markets. In all, ICT developments in Nigeria are an indicator of ripened opportunity for implementation of additional DFS initiatives and progress towards financial inclusion for all. ¹⁴⁶

4.1.6.1 Network Readiness Index (NRI) 2016

It is now well established that technology has the power to improve people's lives, to foster economic growth, and create opportunities for individuals, companies and nations. Over the past 14 years, the transformative potential of technology has been well documented in the annual *Global Information*

¹⁴⁶ Lagos Business School (2017) Digital Financial Services in Nigeria: State of the Market Report 2017.

Technology Report (GITR). Included in the GITR is the Network Readiness Index (NRI) 2016. The NRI measures the capacity of countries to leverage ICTs for increased competitiveness and well-being.

The network readiness framework rests on six principles: 1) a high quality regulatory and business environment is critical in order to fully leverage ICTs and generate impact; 2) ICT readiness – as measured by ICT affordability, skills, and infrastructure – is a pre-condition to generating impact, 3) fully leveraging ICTs requires a society-wide effort: the government, the business sector, and the population at large each have a critical role to play; 4) ICT use should not be an end in itself. The impact that ICTs actually have on the economy and society is what ultimately matters; 5) the set of drivers – the environment, readiness, and usage – interact, coevolve, and reinforce each other to form a virtuous cycle; and 6) the networked readiness framework should provide clear policy guidance. The framework translates into the NRI, a composite indicator made up of four main categories (sub-indexes), 10 subcategories (pillars), and 53 individual indicators.

The computation of the overall NRI score is based on successive aggregations of scores: individual indicators are aggregated to obtain pillar scores, which are then combined to produce a country's overall NRI. The tables below present the Nigeria's profile as set out in the *Global Information Technology Report 2016*. Table 11 summarizes how Nigeria performed in the various dimensions of the Network Readiness Index (NRI) in terms of the four main components and the ten pillars. As can be seen below, Nigeria achieved a rank of 119 out of 139 economies, and a score of 3.2 out of 7 (best). The tables below show how Nigeria performed in each of the 53 indicators composing the NRI.

Table 11: Network readiness index (Nigeria) 2016

Indicator	Rank (out of 143)	Value 2016	Value 2015
Network readiness index 2016	119	3.2	
Network readiness index 2015 (out of 143)	119	3.2	
Network readiness index 2014 (out of 148)	112	3.3	
Network readiness index 2013 (out of 144)	113	3.3	
A. Environment sub-index	116	3.4	3.4
1 st pillar: Political and regulatory environment	117	3.2	3.1
2 nd pillar: Business and innovation environment	111	3.7	3.8
B. Readiness sub-index	117	3.1	3.0
3 rd pillar: Infrastructure	113	2.6	2.3
4 th pillar: Affordability	100	4.3	4.1
5 th pillar: Skills	134	2.4	2.5
C. Usage sub-index	109	3.1	3.2
6 th pillar: Individual usage	112	2.5	2.4
7 th pillar: Business usage	86	3.5	3.5
8 th pillar: Government usage	112	3.3	3.5
D. Impact sub-index	114	3.0	3.1
9 th pillar: Economic impacts	90	2.9	3.1
10 th pillar: Social impacts	123	3.0	3.2

The Political and Regulatory Environment Pillar assesses the extent to which a country's political and regulatory environments facilitate ICT penetration and the development of business activities. It does so by measuring the extent of intellectual property rights protection, prevalence of software piracy, the efficiency and independence of the judiciary, the efficiency of the law-making process, and the overall quality of regulations pertaining to ICTs.

Table 12: 1st Pillar: Political and Regulatory Environment

	Indicator	Rank/ 139	Value 2016	Value 2015
1st pilla	ar: Political and regulatory environment			
1.01	Effectiveness of law making bodies ¹⁴⁷	103	3.1	3.0
1.02	Laws relating to ICTs ¹⁴⁸	121	2.9	2.9
1.03	Judicial independence ¹⁴⁹	96	3.3	3.1
1.04	Efficiency of legal system in settling disputes 150	83	3.4	3.3
1.05	Efficiency of legal system in challenging regs. 151	91	3.2	2.9
1.06	Intellectual property protection ¹⁵²	119	3.1	2.7
1.07	Software piracy rate, % software installed ¹⁵³	87	81	81
1.08	No. procedures to enforce a contract ¹⁵⁴	107	40	40
1.09	No. days to enforce a contract ¹⁵⁵	57	510	510

The Business and Innovation Environment Pillar gauges the extent to which the business environment supports entrepreneurship by taking into account measures of red tape, the ease of starting a business, and taxation. It also measures the conditions that allow innovation to flourish by including indicators on the overall availability of technology, the intensity of competition, the demand conditions for innovative products (as proxied by the development of government procurement of advanced technology products), and the availability of venture capital for funding innovation related project. It is important to note that the intensity of local competition is very high and has also improved by 0.1 points. Governments purchasing decisions to foster innovation have also improved by 0.2 points.

Table 13: 2nd Pillar: Business and Innovation Environment

Indicator	Rank/ 139	Value 2016	Value 2015	
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How effective is the legislative process in your country? [1 = not effective at all—it is deadlocked; 7 = extremely effective].

How developed are your country's laws relating to the use of ICTs (e.g., e-commerce, digital signatures, consumer protection)? [1 = not developed at all; 7 = extremely well developed].

In your country, how independent is the judicial system from influences of the government, individuals, or companies? [1 = not independent at all; 7 = entirely independent].

¹⁵⁰ In your country, how efficient are the legal and judicial systems for companies in settling disputes? [1 = extremely inefficient; 7 = extremely efficient].

In your country, to what extent can individuals, institutions (civil society), and businesses obtain justice through the judicial system against arbitrary government decisions? [1 = not at all; 7 = to a great extent].

In your country, to what extent is intellectual property protected? [1 = not at all; 7 = to a great extent].

Unlicensed software units as a percentage of total software units installed.

Number of procedures to resolve a dispute, counted from the moment the plaintiff files a lawsuit in court until payment.

Number of days to resolve a dispute, counted from the moment the plaintiff decides to file the lawsuit in court until payment.

2 nd Pillar: Business and innovation environment					
2.01	Availability of latest technologies ¹⁵⁶	99	4.2	4.4	
2.02	Venture capital availability ¹⁵⁷	128	2.0	1.9	
2.03	Total tax rate, % profits ¹⁵⁸	55	33.3	32.7	
2.04	No. days to start a business ¹⁵⁹	119	31	31	
2.05	No. procedures to start a business ¹⁶⁰	104	9	9	
2.06	Intensity of local competition ¹⁶¹	60	5.2	5.3	
2.07	Tertiary education gross enrolment rate, %162	114	10.4	10.4	
2.08	Quality of management schools ¹⁶³	102	3.7	3.8	
2.09	Gov't procurement of advanced tech ¹⁶⁴	116	2.8	3.0	

The Infrastructure pillar captures the state of a country's ICT infrastructure as well as infrastructure that matters for ICT development: mobile network coverage, international Internet bandwidth, secure Internet servers, and electricity production.

Table 14: 3rd Pillar: Infrastructure

	Indicator	Rank/ 139	Value	Value
3 rd Pillar	:: Infrastructure			
3.01	Electricity production, kWh/capita	123	167.6	164.6
3.02	Mobile network coverage, % pop. 165	63	99.4	91.2
3.03	Int'l Internet bandwidth, kb/s per user ¹⁶⁶	127	3.1	3.4
3.04	Secure Internet servers/million pop	118	2.3	1.7

The Affordability Pillar assesses the affordability of ICTs in a country through measures of mobile telephony usage costs and broadband Internet subscription costs, as well as an indicator that assesses the state of liberalization in 17 categories of ICT services, because more intense competition tends to reduce retail prices in the long run. Both mobile and internet tariffs have increased Internet and telephony competition remains at the highest scale possible (2.0).

¹⁵⁶ In your country, to what extent are the latest technologies available? [1 = not at all; 7 = to a great extent].

In your country, how easy is it for start-up entrepreneurs with innovative but risky projects to obtain equity funding? [1 = extremely difficult; 7 = extremely easy].

Sum of profit tax, labor tax and social contributions, property taxes, turnover taxes, and other taxes, as a share (%) of commercial profits.

Number of days required to start a business.

Number of procedures required to start a business.

In your country, how intense is competition in the local markets? [1 = not intense at all; 7 = extremely intense].

Tertiary education gross enrollment rate (%).

In your country, how do you assess the quality of business schools? [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world].

In your country, to what extent do government purchasing decisions foster innovation? [1 = not at all; 7 = to a great extent].

Percentage of total population covered by a mobile network signal.

International Internet bandwidth (kb/s) per Internet user.

Table 15: 4th Pillar: Affordability

	Indicator	Rank/ 139	Value	Value
4 th Pilla	ır: Affordability			
4.01	Prepaid mobile cellular tariffs, PPP \$/min ¹⁶⁷	33	0.13	0.14
4.02	Fixed broadband Internet tariffs, PPP \$/month ¹⁶⁸	113	70.87	74.65
4.03	Internet & telephony competition ¹⁶⁹	1	2.0	2.0

The Skills Pillar measures the capacity of the population to make effective use of ICTs by taking into account the enrolment rate in secondary education, the overall quality of the education system, and of mathematics and science education in particular, and adult literacy.

Table 16: 5th Pillar: Skills

	Indicator	Rank/ 139	Value	Value
5 th Pilla	r: Skills			
5.01	Quality of education system ¹⁷⁰	124	2.7	2.9
5.02	Quality of math and science education ¹⁷¹	131	2.6	2.6
5.03	Secondary education gross enrolment rate, %	122	43.8	43.8
5.04	Adult literacy rate, %	104	59.6	59.6

The Individual Usage Pillar measures the level of diffusion among a country's population, using mobile telephony penetration, Internet usage, personal computer ownership, and the use of social networks.

Table 17: 6th Pillar: Individual Usage

	Indicator	Rank/ 139	Value	Value	
6 th Pilla	ır: Individual usage				
6.01	Mobile phone subscriptions/100 pop ¹⁷²	118	77.8	73.3	
6.02	Individuals using the Internet, %	84	42.7	38	
6.03	Households w/personal computer, %	116	9.1	8.4	
6.04	Households w/Internet access, %	114	8.5	7.8	
6.05	Fixed broadband Internet subs/100 pop	137	0.0	0	
6.06	Mobile broadband subs/100 pop	110	11.7	10.1	
6.07	Use of virtual social networks ¹⁷³	85	5.4	5.5	

¹⁶⁷ Average per-minute cost of different types of mobile cellular calls (PPP \$).

Monthly subscription charge for fixed (wired) broadband Internet service (PPP \$).

Level of competition index for Internet services, international long distance services, and mobile telephone services on a 0-to-2 (best) scale.

In your country, how well does the education system meet the needs of a competitive economy? [1 = not well at all; 7 = extremely well].

¹⁷¹ In your country, how do you assess the quality of math and science education [1 = extremely poor—among the worst in the world; 7 = excellent—among the best in the world].

Mobile telephone subscriptions (post-paid and pre-paid) per 100 population.

In your country, how widely are virtual social networks used (e.g., Facebook, Twitter, LinkedIn)? [1 = not at all used; 7 = used extensively].

The Business Usage Pillar captures the extent to which businesses in a country use the Internet for business-to-business and business-to-consumer operations, as well as their efforts to integrate ICTs in their operations. It also measures the capacity of firms to come up with new technologies by taking into account the number of patent applications under the Patent Cooperation Treaty (PCT). Finally, it measures the extent of staff training as a proxy for the capacity of management and staff to innovate.

Table 18: 7th Pillar: Business Usage

	Indicator	Rank/ 139	Value 2016	Value 2015
7 th Pilla	ar: Business usage			
7.01	Firm level technology absorption ¹⁷⁴	91	4.3	4.3
7.02	Capacity for innovation ¹⁷⁵	82	3.8	3.7
7.03	PCT patents, applications/million pop ¹⁷⁶	111	0.0	0.0
7.04	Business-to-business use ¹⁷⁷	91	4.4	4.5
7.05	Business-to-consumer Internet use ¹⁷⁸	92	4.0	4.1
7.06	Extent of staff training 179	62	4.0	4.3

The Government Usage Pillar assesses the leadership and success of the government in developing and implementing strategies for ICT development, as well as in using ICTs, as measured by the availability and quality of government online services.

Table 19: 8th Pillar: Government Usage

	Indicator	Rank/ 139	Value 2016	Value 2015	
8 th Pilla	8 th Pillar: Government usage				
8.01	Importance of ICTs to gov't vision ¹⁸⁰	104	3.4	3.6	
8.02	Government Online Service Index ¹⁸¹	98	0.31	0.31	
8.03	Gov't success in ICT promotion ¹⁸²	103	3.5	4.2	

The Economic Impacts Pillar aims to measure the effect of ICTs on the economy through technological and non-technological innovations in a country—as measured by the number of patent applications as well as by the role of ICTs in the development of new products, processes, and organizational models. It also measures the overall shift of an economy toward more knowledge intensive activities.

¹⁷⁴ In your country, to what extent do businesses adopt new technology? [1 = not at all; 7 = adopt extensively].

In your country, to what extent do companies have the capacity to innovate? [1 = not at all; 7 = to a great extent].

Number of applications filed under the Patent Cooperation Treaty (PCT) per million population.

In your country, to what extent do businesses use ICTs for transactions with other businesses? [1 = not at all; 7 = to a great extent].

In your country, to what extent do businesses use the Internet for selling their goods and services to consumers? [1 = not at all; 7 = to a great extent].

179 In your country, to what extent do companies invest in training and employee development? [1 = not at all; 7 = to a great extent].

To what extent does the government have a clear implementation plan for utilizing ICTs to improve your country's overall competitiveness? [1 = not at all—there is no plan; 7 = to a great extent—there is a clear plan].

The Government Online Service Index assesses the quality of government's delivery of online services on a 0-to-1 (best) scale.

In your country, how successful is the government in promoting the use of ICTs? [1 = not successful at all; 7 = extremely successful].

Table 20: 9th Pillar: Economic Impacts

	Indicator	Rank/ 139	Value 2016	Value 2015
	9 th Pillar: Economic impacts			
9.01	Impact of ICTs on new services & products ¹⁸³	82	4.2	4.3
9.02	ICT PCT patents, applications/million pop 184	98	0.0	0.0
9.03	Impact of ICTs on new organizational models ¹⁸⁵	101	3.6	3.9
9.04	Knowledge-intensive jobs, % workforce ¹⁸⁶	n/a	n/a	n/a

The Social Impacts Pillar aims to assess a country's societal progress brought about or enhanced by the use of ICTs. Such progress includes—but is not limited to—access to education and healthcare, energy savings, and more-active civil participation. Currently, because of data limitations, this pillar focuses on assessing the extent to which ICTs allow access to basic services (education, financial services, and healthcare); the use of the Internet at school, as a proxy for the potential benefits that are associated with the use of ICTs in education; the impact of ICTs on government efficiency; and the quality and usefulness of information and services provided by a country for the purpose of engaging its citizens in public policymaking through the use of e-government programs.

Table 21: 10th Pillar: Social Impacts

	Indicator	Rank/ 139	Value 2016	Value 2015	
10 th Pillar	10 th Pillar: Social impacts				
10.01	Impact of ICT on access to basic services ¹⁸⁷	123	3.2	3.2	
10.02	Internet access in schools ¹⁸⁸	124	3.0	3.4	
10.03	ICT use & gov't efficiency ¹⁸⁹	128	2.9	3.3	
10.04	E-Participation Index ¹⁹⁰	89	0.33	0.33	

4.1.7 VOICE AND DATA COMMUNICATION NETWORKS

Nigeria has struggled with poor network availability, service accessibility and voice quality over the years. In 2011, EFInA stated in the *EFInA Quarterly Review (Jul-Sep 2011)* that quality the quality of service across all networks in the country had been on the decline due to capacity constraints and infrastructure challenges such as poor power supply, logistic problems, vandalism and theft of vital

In your country, to what extent do ICTs enable new business models? [1 = not at all; 7 = to a great extent].

Number of applications for information and communication technology–related patents filed under the Patent Cooperation Treaty (PCT) per million population.

In your country, to what extent do ICTs enable new organizational models (e.g., virtual teams, remote working, telecommuting) within companies? [1 = not at all; 7 = to a great extent].

Share of workforce employed in knowledge-intensive activities (%).

¹⁸⁷ In your country, to what extent do information and communication technologies (ICTs) enable access for all individuals to basic services (e.g., health, education, financial services, etc.)? [1 = not at all; 7 = to a great extent].

¹⁸⁸ In your country, to what extent is the Internet used in schools for learning purposes? [1 = not at all; 7 = to a great extent].

In your country, to what extent does the use of ICTs by the government improve the quality of government services to the population? [1 = 1] not at all; [1 = 1] a great extent.

not at all; 7 = to a great extent].

The E-Participation Index assesses, on a 0-to-1 (best) scale, the quality, relevance, and usefulness of government websites in providing online information and participatory tools and services to their citizens.

telecoms equipment, among others. Service has since improved in recent years, but these issues still plague networks challenges.

Additionally, as a result of fierce price competition among the network operators, more Nigerians were able to afford mobile phone services due to affordable tariffs. However, this resulted in serious network congestion and poor QoS. According to experts, the solution proposed at the time was to build more base stations. It was predicted that Telecoms operators would have to invest in a total of 60,000 base stations to improve on the poor services currently being experienced. The telecoms companies were also advised to make additional investment in infrastructure such as cell sites to improve service quality for voice and data offerings. Of the 60,000 base stations required to boost QoS, the operators had by September 2011, only deployed 13,000.¹⁹¹

By June 2012, operators in the industry, including MTN, Globacom, Airtel, Etisalat and the CDMAs which include Starcomms, Visafone and Multilinks only had 20,000 base stations serving over 100 million subscribers in Nigeria. According to analysts, the figure is too small when compared with an economy such as the United Kingdom, which has approximately 55,000 base station sites serving a population of just over 60 million people. For Nigerian networks to provide best in class services compared to the UK, Europe and other countries, it should have at least 70,000 base stations. The average cost of building a base station is between \$200,000 and \$250,000 depending on the topography of the area. ¹⁹²

According to the Nigerian Communications Commission (NCC), in April 2017, the number of active telephone lines totaled 149,249,510 and teledensity reached 106.61%. The table below provides a summary of telephone (fixed line and mobile) subscribers in April 2017.

 Type
 Number of active lines

 Mobile GSM
 148,774,015

 Mobile CDMA
 217,566

 Fixed Wired/Wireless
 153,804

 VoIP
 104,125

 TOTAL
 149,249,510

Table 22: Telephone Subscribers (Fixed Line and Mobile)

MTN is currently the market leader in terms of GSM operators with 58,121,427 subscribers (market share of 39%); followed by Globacom with 37,270,100 subscribers (market share of 25%); then Airtel with 34,336,802 subscribers (market share of 23%); and finally Etisalat with 19,045,686 subscribers (market share of 13%). ¹⁹³

Stakeholder interviews conducted during February 2018 revealed that network coverage in rural areas remains a serious concern and an issue which drastically reduced the chances of success of any expansion / financial inclusion strategy. Additionally, research conducted by the Lagos Business School in 2017

¹⁹¹ EFInA (2011) EFInA Quarterly Review (Jul-Sep 2011).

¹⁹² EFInA (2012) EFInA Quarterly Review (Apr-Jun 2012).

EFInA (2017) EFInA Quarterly Review (April to June 2017).

found that extending financial inclusion to rural populations is being hampered by the high cost of roll out of telecommunications infrastructure expansion. ¹⁹⁴

4.1.8 IDENTIFICATION SYSTEMS

One of the major problems identified during the in-country stakeholder interviews conducted in February 2018 is that there is a duplication of identity management schemes in Nigeria. These are:

1) National identity number (NIN); 2) Bank Verification Number (BVN); and 3) SIM registration.

4.1.8.1 National Identity Number (NIN)

In Nigeria, all Financial Institutions and all Designated Non-Bank Financial Institutions are required to obtain a valid means of identification from existing and prospecting clients before the commencement of any business relationship as required by law. The acceptable means of identification are an International Passport issued by the Nigerian Immigration Service (NIS), Driver's License issued by the Federal Road Safety Commission (FRSC) or National Identification Number (NIN) issued by the National Identity Management Commission (NIMC). However voter's card and third party identification documents ¹⁹⁵ are accepted for financial inclusion clients/products.

Section 5 of the National Identity Management Commission Act generally empowers the National Identity Management Commission (NIMC) to create, manage, maintain and operate the National Identity Database (Unified Database), while section 14 of the same Act provides for the harmonization and integration of every other existing identification databases in government agencies into the National Identity Database. The Nigerian ID contains basic information of a card holder that is only accessible to authorized terminals or Card Acceptance Devices (CADs) in a confidential manner. Access to the stored information requires special readers approved by NIMC thereby leading to secured validation of the applicant's NIN. This simple unique function makes the National eID a strong tool for institutions offering services to their customers like the "know your customer" (KYC) tool for FIs and DNFBPs online/real time at a minimal cost. The e-ID card is thus a secured chip based card with multiple functions.

A recent report compiled by the National (Money Laundering & Terrorist Financing) Risk Assessment Forum (NRA Forum) highlights several of the problems including the fact that NIMC faces budgetary and funding constraints. ¹⁹⁶ As depicted in Table 23 below, between 2012 and 2016, the NIMC only registered approximately 14,672,607 million Nigerians and issued 13,094,742 identification card containing their National Identification Numbers (NIN). Additionally, the NRA Forum report states that capacity of the servers stands at a maximum of 4 million records per annum. This means that NIMC cannot register more than 4 million Nigerians in any particular year. This is greatly hampering the operational efficiency of the agency especially in view of the growth rate (birth rate) of the country which

¹⁹⁴ Stakeholders interviewed by the Lagos Business School suggested a number of interventions including: 1) the CBN should avail long term intervention funds at low interest rates for rural telecommunication expansion; 2) CBN's Foreign Exchange (Fx) Policy should be modified to include telecommunication companies in the CBN Fx window; In addition, existing spot rates should be revised downward and kept at par with rates obtainable in the forwards market deals, to enable operators pay for equipment and services critical to their network operations and enhancements; 3) The Universal Access and Universal Service Regulation 2007 should be reviewed to ensure easier access to Universal Service Provision Fund (USPF); 4) the USPF should be reviewed and the Nigerian Information Technology Development (NITDEV) Fund should be actively deployed to fund enhancement of rural telephony by stipulating catchment areas for telecommunication companies and other infrastructure providers up to ward levels, and promoting compliance through incentives; 5) NCC should review spectrum pricing policy for rural area penetration by telecommunication companies, thereby inducing cheaper or free spectrum.

This is a relaxed KYC (tier 1) provision that allows a third-party such as; clergyman, village or clan head, and headmaster amongst others with acceptable means of identification to identify the socially disadvantaged person with no formal means of identification.

NRA Forum (2016) Report of Nigeria National Risk Assessment on Money Laundering and Terrorism Financing 2016 p. 68.

is estimated at 5 million per annum. In addition, the NIMC currently has only 12,000 registration terminals as against 24,000 required for optimal capacity operations. ¹⁹⁷

Although the database is highly secured, reliable and easily accessible to the reporting entities and other competent authorities upon request, only about 5% of the Nigerian populace has been captured. Additionally, a 2014 Lafferty Group report cites the lack of generally accepted proof of formal identification required to comply with KYC regulations as a major drawback to the success of mobile money operations in Nigeria. 199

Table 23: Statistics on Identification Registration

S/N	Description	2012	2013	2014	2015	2016
1	Total number of registered Nigerians for national identity card purposes	57,841	1,147,181	3,833,450	2,203,168	7,430,967
2	Total number of registered Nigerians issued with current national identity cards	-	-	1,082	-	-
3	Total number of requests from banks and other financial institutions on identity verification	-	-	2,400	-	-
4	Total number of fake national identity cards detected till date	-	1	1	-	-
5	Total number of NIMC staff trained on AML/CFT	-	1	1	-	-
6	number of staff dedicated to AML/CFT responsibilities	-	1	1	-	-

Source: NRA Forum (2016)

An additional problem is evident in Nigeria. There are very few independent sources of information such as the credit bureaus, Utility Companies, Telecommunication Companies (Telcos) and the National Voter's Register maintained by the Independent National Electoral Commission (INEC). The most reliable and accessible source is the information maintained by the credit bureaus. The CBN requires all licensed banks to avail all registered credit bureaus operating in Nigeria with the loan portfolios of all their clients on a monthly basis for the purpose of aggregation, rating and determination of the risks profile of the clients across all banks. This provides a reliable and easily accessible hub of valuable financial history of clients by all regulated entities.²⁰⁰

The primary problems identified by the NRA Forum are as follows:

- Unavailability of the data in the required format;
- Improper record keeping;
- Improper addressing of streets and houses;
- Non-adherence to laid down town planning regulations;
- Inadequacy of street names and house numbers:
- Absence of updated records in cases of change of address, marital status and place of work and;
- Difficulty in accessing records maintained by some of the independent sources.²⁰¹

¹⁹⁷ *Ibid*, p. 68.

¹⁹⁸ *Ibid*, p. 68.

EFInA (2014) EFInA Quarterly Review (Jan-Mar 2014).

²⁰⁰ *Ibid*, p. 69.

²⁰¹ *Ibid*.

4.1.8.2 Bank Verification Number (BVN)

The Bank Verification Numbering (BVN) Policy was introduced by the CBN in 2014 to address the need for standard identification in the financial services sector. The national BVN policy aims at uniquely identifying bank account holders, and linking customer accounts through a unique identification number, the "BVN" and preventing misappropriation of funds by identity fraud. By linking customer information, the CBN has implemented a system which stores transactions and customer information, and helps in detecting identity abuse, money laundering and other anomalies. ²⁰²

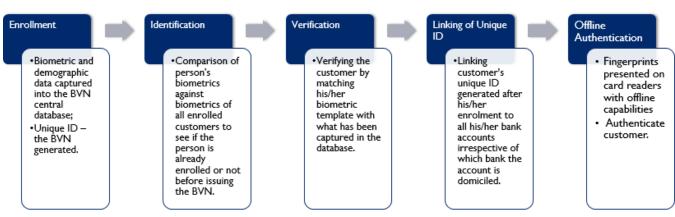


Figure 21: The BVN process

Additional steps at a later stage:

- Fraud Management: This is a process aimed at using a traceable Unique Customer Identity to deter, prevent, detect and mitigate
 the risks of financial fraud in the industry.
- Customer Information Update: This is the process by which the customer updates his/her information on the central identity
 database.
- Credit Check: This process involves evaluating an applicant's loan request in order to determine that the borrower will fulfil
 his/her obligation. Approved Credit Rating Guidelines require Banks to render regular information to the credit bureaus, including
 information of all credits advanced to customers, defaults by customers and other credit related information.

The enrollment process seems to be easy as customers are expected to walk into any branch of their bank, fill and submit the BVN enrolment form and also do data capturing like as fingerprint, facial features. An acknowledgment slip with the transaction identity is issued to the customer and within 24 hours that the system confirms the application, the BVN is generated, and SMS is sent to the customer for pickup. A customer can only enroll once and his / her BVN is linked to all his / her bank accounts across Nigerian banks. At the point of the enrolment however, individuals are required to submit an acceptable means of identification and update their information at the bank branch physically. This is seen by some as contrary to the CBN's financial inclusion policy and a further barrier to "banking the un-banked" as many people living in rural areas live very far away from bank branches and several do not have the documentation required.

In June 2015, the CBN gave bank customers a thirty-three-day deadline to enroll in the BVN scheme. It was subsequently extended the deadline till the end of that year while exempting customers of other financial institutions regulated under Nigerian banking rules. On 23 October, 2017, the federal government has asked CBN to extend the BVN requirements to account holders in other financial institutions, which includes microfinance banks, a policy which the regulator said it planned to do in

²⁰² Lagos Business School (2017) Digital Financial Services in Nigeria: State of the Market Report 2017.

 $^{{\}color{red}\textbf{See}}\ \underline{\textbf{https://guardian.ng/business-services/money/bvn-the-issues-and-rationale}$

August and September. Furthermore, the apex bank announced that with effect from 1 January, 2018, all customers without BVNs linked to their accounts will no longer be entitled to debit and other ordinary financial operations. Several have argued that the CBN's BVN policy and the threat to prohibit account holders from transacting without a BVN is on very shaky ground. The BVN policy does not technically have the backing or force of any law. There is no known piece of active legislation or one currently under consideration at the National Assembly that incorporates the BVN policy. The CBN is, however, statutorily permitted by Section 51 of its establishment statute to "make and alter rules and regulations," and Section 55 the Banks and Other Financial Institutions Act as amended 2002 to "make regulations...to give full effect to the objects and objectives" of those laws. The absence of any substantive legislation on the BVN policy means that there is no law that spells out a punishment or penalty for not linking a bank account to a BVN. S36(12) of the Constitution is to the effect that no Nigerian "shall not be convicted of a criminal offence unless that offence is defined and the penalty thereof is prescribed in a written law, and in this subsection, a written law refers to an Act of the National Assembly or a Law of a State, any subsidiary legislation or instrument under the provisions of a law."

On the 7th September 2017 the CBN issued Circular BPS/DIR/GEN/CIR/04/007 in which it revised mobile money wallet limits and clarified that mobile money wallet holders on Tiered KYC Level 1 are not required to provide Bank Verification Numbers as part of the KYC documentation, while the BVN is mandatory for Mobile Money wallet holders on KYC levels 2 and 3. The BVN is also mandatory for all bank accounts including accounts with Tier 1 KYC requirements.

Box 12: Stakeholder views on the Bank Verification Number (BVN)

Nigerian Inter-Bank Settlement System (NIBSS): Currently 32 million BVNs have been provided. The problem here may be that customers have to go to a bank branch to apply for a BVN. NIBSS are well positioned to and would like to work with agents to undertake the BVN registration process remotely. Biometric scanners are however very expensive but NIBSS are currently working on an RFP to solicit bids from biometric scanner vendors.

Ecobank: BVNs are not required to open a mobile money (Tier 1) account but are required for (Tier 1) bank accounts. The BVN registration process has to be done in-branch. There should be investment in technology so that BVN (biometric) could be captured outside the branch. This technology (fingerprint scanners etc. is however very expensive). Only 31 million BVN have been issued. 60 million remaining.

Guarantee Trust Bank (GTB): There are currently no "external" devices to capture BVN data. This has to be in-branch and is problematic (blocks up the banking hall and there are very long queues). Biometric devices are very costly (+-USD \$500) and they need power and mobile network coverage. Both power and mobile network coverage are problematic in rural areas in Nigeria. An alternative solution, such as building co-owned centers for BVN enrolment and account opening is required. Being able to open a bank account using USSD has the potential to greatly enhance the financial inclusion agenda. However, customers still need to physically visit a bank branch to do KYC, get a BVN and in order to be able to transact.

Zenith Bank: Tier I bank accounts requires a BVN, Tier I mobile account do not. This is an unequal playing field.

PAGA: BVNs have made it easier to upgrade people from Tier I accounts.

Innovectives: The Regulators are constantly contradicting themselves and the Tiered KYC framework is not working. For Tier 1 accounts could be opened without an ID however, recent CBN directive now require wallet account holders to have BVN or be enrolled for a BVN and this is confusing. Several commercial banks have told Innovectives that Innovectives should be doing the BVN registration. This is not correct.

Source: Stakeholder interviews and meetings (February 2018)

4.1.9 ON-GRID ENERGY AVAILABILITY

Electronic payment mechanisms, by their very nature, depend on a reliable electricity supply. In 2009, the EFInA Quarterly Report stated that, "poor power supply is the most serious challenge facing Nigerians. Over 78% of Nigerians consider the state of the country's power infrastructure as the major factor that has deprived them of the basic comforts of life. According to the National Electricity

Regulatory Commission, Nigerians spend up to N769.4 billion annually in fueling generators for electricity generation."²⁰⁴ Nigeria is, in principle, well endowed with energy resources, but it nonetheless periodically suffers from energy crises. The erratic supply of electricity and the perennial shortage of most petroleum products have constrained Nigeria's development during the past decades. Nigeria embarked on a power sector reform with the adoption of the Electric Power Sector Reform Act 2005. The process was further accelerated in 2010 with the Road Map for Power Sector Reform.

The *Nigeria Vision 20:2020* identifies the improvement of the provision of electricity as a key priority and an ambitious national generation capacity target is set at 40,000 MW by the year 2020. Nigeria currently has 23 grid-connected electricity plants in operation, with a total installed capacity of 12,522 MW (Advisory Power Team, 2015) and an available current capacity of only about 4,500 MW. Most electricity generation is thermal, with an installed capacity of 8,457.6 MW. Hydropower from three major plants accounts for 1,938.4 MW of total installed capacity and has an available capacity of 1,060 MW. The country is home to enormous energy resources: petroleum, natural gas, coal, nuclear power and tar sands. Other resources include solar, wind, biomass and hydropower. Development and exploitation of energy sources has been skewed in favor of hydropower, petroleum and natural gas. Nigeria has an untapped potential to produce 93,950 MW from carbon-emission-free energy sources, which include small and large hydroelectric power plants (68%), nuclear power (21%), solar and photovoltaic (7%) and onshore wind (2%). Note that the product of the province of the provinc

According to the World Bank report Doing Business 2018, connecting to the electrical grid in Nigeria requires 9.8 procedures, takes 149.4 days and costs an amount equivalent to 334.8 per cent of income per capita. Overall, Nigeria ranks 172 out of 190 economies for ease of getting access to electricity. The country is at the top of the list of African countries with high numbers of power outages. Issues leading to the current difficulties in meeting the national power demand include ageing plants, mostly developed in the 1960s, which are becoming more and more obsolete, poor maintenance, inadequate funding of the sector's development and poor electricity pricing. In early 2017, electricity prices increased once again. The price for electricity depends on four major things: (a) Location; (b) Tariff Class; (c) Tariff Rate and (d) quantity of consumed energy (in kWh).

Based on the new tariff regime so far released by NERC, residential consumers (R2) are now paying on the average 48% more than what they paid in 2016.

Table 24: Sample Electricity Tariffs

	2016	2017
Abuja Electricity Distribution Company	N19.96	N29.56
Eko Disco	N18.75	N28.75
Ikeja Disco	N14.96	N22.96
Kaduna Disco	N20.66	N31.71
Benin Disco	N18.46	N27.72

²⁰⁴ EFInA (2009) EFInA Quarterly Review (Oct-Dec 2009).

UNECA (2016) Nigeria Country Profile, p. 26.

²⁰⁶ *Ibid*, p. 27.

²⁰⁷ *Ibid*, p. 27.

http://www.doingbusiness.org/data/exploretopics/getting-electricity

UNECA (2016) Nigeria Country Profile, p. 28.

Reforms in the Nigerian power sector are among the most renowned national privatization efforts in Africa. Over the past decade they have demonstrated the country's commitment to improving its power supply through investment, increased competitiveness and deregulation. ²¹⁰

Table 25: Milestones in Power Sector Reform in Nigeria (2005 – 2015)

Period	Major Reforms
2005	Electric Power Sector Reform Act, 2005 Regulator (NERC) established Formation of PHCN
2006	Unbundling of assets (transmission, distribution and generation) Implementation of 10 national integrated power projects Establishment of the market operations department of the transmission company of Nigeria
2008	Approval of a body to oversee progress of unbundled generation and distribution companies Approval of a multi-year tariff order
2010	Introduction of the national power road map established by Nigerian Bulk Electricity Trading plc
2012	Transmission Company of Nigeria enters into a management contract with a utility and asset management company Memorandums of understanding on nuclear energy signed
2013	Improvement in hydroelectric power stations (\$1.72 billion for the construction of three stations) Memorandums of understanding signed for coal power partnerships
2014	Strengthening of renewable energy program Generation asset sales completed for 7 out of 10 national integrated power projects
2015	Transitional power market established

Source: Adapted from PricewaterhouseCoopers (2016)

New measures have also been taken to boost growth in the renewable energy sector. Those measures include the legislative framework, licensing arrangements for private sector operators, feed-in tariffs and clarifying market rules for renewable energy services and products. Rural electrification programs, first launched in March 2006, are to take renewable energy sources into full account in order to meet the Government's targets.

4.2 THE ENABLING ENVIRONMENT IN NIGERIA

The **Enabling Environment** consists of:

- Laws and regulations and the implementation thereof: these include the basic permissions given to financial institutions, the authority of financial regulators and the regulation and permissions given to non-bank providers. E-Money laws and regulations, AML/CFT law and regulation and the framework governing Agency Banking.
- National Policies, particularly with respect to financial inclusion, and in the case of Nigeria, the Cashless Policy.
- **Standard setting bodies and their standards**. These may be specific to one industry group such as EMV.
- **Industry groups** which act on behalf of large numbers of individual providers. These include Payment Associations, Payment System Management Bodies and Banking Associations.

4.2.1 A SOUND LEGAL BASIS

²¹⁰ UNECA (2016) Nigeria Country Profile, p. 29.

Principle 1 of the *Principles for Financial Market Infrastructures (PFMI)* requires that Financial Market Infrastructures (FMIs) should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of their activities in all relevant jurisdictions. Paragraph 3.1.2 of the Bank for International Settlements and International Organization of Securities Commissions Principles for Financial Market Infrastructures (PFMI) 2012 report reads as follows:

"The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions. The legal basis consists of the legal framework and the FMI's rules, procedures, and contracts. The legal framework includes general laws and regulations that govern, among other things, property, contracts, insolvency, corporations, securities, banking, secured interests, and liability. In some cases, the legal framework that governs competition and consumer and investor protection may also be relevant. Laws and regulations specific to an FMI's activities include those governing its authorization and its regulation, supervision, and oversight; rights and interests in financial instruments; settlement finality; netting; immobilization and dematerialization of securities; arrangements for Delivery versus Payment (DvP), Payment versus Payment (PvP), or Delivery versus Delivery (DvD); collateral arrangements (including margin arrangements); default procedures; and the resolution of an FMI."

Broken down further, a country's laws and regulations should, at the minimum provide for the following:²¹³

Regulation and Oversight by the Central Bank

The legal framework should provide for the Central Bank's participation in and oversight of the National Payment System. Central Banks must be mandated to perform functions, implement rules and procedures and take necessary steps to establish, conduct, monitor, regulate and oversee payment clearing and settlement systems. As noted by the Bank for International Settlements, "the legal framework for the payment system needs to support the Central Bank's oversight function. Laws or other legal instruments should be developed to: (i) authorize the Central Bank to oversee, and possibly regulate, the payment system, including the operations of global payment systems within their own borders; (ii) ensure that financial institutions and payment systems effectively manage their financial and operational risk; and (iii) require various payment systems and financial institutions to conduct operations consistent with applicable regulations."

Settlement provisions

Settlement provisions should preferably be contained in legislation rather than contract or multilateral agreement or rules. The law should establish settlement finality and payment finality and irrevocability except under specified conditions. These laws must protect the risk-free settlement facility at the Central Bank from being frozen or attached by creditors of institutions holding settlement accounts.

Bank for International Settlements and International Organization of Securities Commissions (2012) *Principles for Financial Market Infrastructures*. The *Principles for Financial Market Infrastructures* (*PFMI*) report lists five different types of financial market infrastructures (*FMIs*) that are systemically important. These are payment systems (PS), central securities depositories (CSD), securities settlement systems (SSS), central counterparties (CCP) and trade repositories (TR). It is important to note that the definition of a payment system included in the report distinguishes between retail and large value payment systems. While there is a presumption that these systems are systemically important, the report notes that national authorities are responsible for determining which systems are systemically important, and as such are expected to observe PFMI principles.

Bank for International Settlements and International Organization of Securities Commissions (2012) *Principles for Financial Market Infrastructure*.

Langhan S and Smith K (2014) The Legal and Regulatory Framework for Payments.

Netting Arrangements

The provisions found in law should permit payment netting in clearing and settlement systems and in bilateral financial contracts (including close-out netting) and ensure that the net amounts are enforceable against unwinds, especially in insolvency situations. These laws govern netting and unwinding procedures, and define the rights and obligations of participants in the netting scheme and protect the settlement account at the Central Bank or commercial banks from stays of execution ("freezes") upon the insolvency of a participant in a payment system. Where novation is used, laws ensuring the legal enforceability of novation (preferably through legislation) could be introduced. These provisions are more often than not found in the National Payment System Act / Payment System Management Act in each country.

Official Currency

This law should establish the official currency issued or backed by the Central Bank and regulate the acceptance of currency for payment with regard to denominations relative to transaction value and eligible transactions (i.e. legal tender laws). In most SADC countries, this matter is contained in the Central Bank Law. These laws should also prohibit and penalize counterfeiting of the official currency and money laundering, and authorize monitoring and reporting of suspicious payments. These issues are generally covered in the Central Bank Act and the Anti-Money Laundering or Financial Intelligence Center Act.

Check or negotiable instrument

Laws and regulations should contain provisions governing the issuance, acceptance and negotiation of checks. This may initially be governed by common law or contract but should eventually be governed by legislation. These laws should also determine the rights and obligations of payers and payees in situations of fraud as part of the criminal code or the check law; and enable electronic check presentment, truncation and imaging.

Credit transfers

Laws and regulations should authorize paper-based credit transfers and electronic wire transfers and should govern aspects such as finality of payment, misdirected payments, payment fraud and availability of funds to the customer. Several of these issues may be governed by contract and common law.

Card instrument

Card laws and regulations govern the rights and obligations of the issuer, cardholder and merchant if not covered by existing contract law. This subject may be left entirely to contract and common law or subjected to legislation to govern some aspects of the relationships such as consumer protection law.

Electronic money

These laws and regulations govern the issuance and use of electronic money and ensure the legal discharge of payment obligations through settlement by electronic money if this is not covered under currency laws. The European Union has issued Directive 2009/110/EC on the Taking Up, Pursuit and Prudential Supervision of the Business of Electronic Money Institutions covering this subject matter.

Payment Services

Directive 2015/2366/EC Payment Services in the Internal Market is known as the Payment Services Directive or PSD2 and is a good example of what should be included in a payment services law. The Directive covers inter alia: the authorization of payment institutions; own funds requirements; safeguarding

requirements; the use of agents, branches or entities to which activities are outsourced; transparency of conditions and information requirements for payment services (single transactions and framework contracts); and the rights and obligations in respect to the provision and use of payment services.

Securities settlement system

The legal framework for securities settlement systems requires laws and regulations that support the immobilization, ownership, transfer and pledging of securities (or interests in securities) in book-entry form in a securities depository or other securities intermediaries. The legislation should also support the issuance, ownership and transfer of "dematerialized" or "non-certificated" securities embodied in electronic media rather than paper. The law should mandate arrangements for Delivery versus Payment (DvP), Payment versus Payment (PvP), or Delivery versus Delivery (DvD). Legislation or contracts that validate the underlying transactions in securities, such as financial derivatives, repurchase agreements, securities loans and other transactions with regard to custody transfer and pledge of the underlying securities are preferable.

Evidence or electronic communications and transactions

These laws and regulations provide evidentiary proof of authentication of electronic payments using digital signatures or other instruments for electronic payment authorization. The law should also provide for the establishment and maintenance of a register of cryptography providers and the accreditation of authentication products and services in support of advanced electronic signatures by a recognized Accreditation Authority.

Anti-Money Laundering and Counter Terror Financing (AML/CFT) AML/CFT laws and regulations are a vital component of the legal and regulatory framework for payments. The 2012 Financial Action Task Force (FATF) International Standards on Combating Money Laundering and the Financing of Terrorism and Proliferation: The FATF Recommendations contain several recommendations that have direct applicability to payment systems. These include: Recommendation 10, Customer Due Diligence; Recommendation 1, Record Keeping; Recommendation 12, Politically Exposed Persons; Recommendation 13, Correspondent Banking;

Recommendation 14, Money or Value Transfer Services; Recommendation 15, New Technologies; Recommendation 16, Wire Transfers; Recommendation 17, Reliance on Third Parties; Recommendation 18, Internal Controls and Foreign Branches and Subsidiaries; Recommendation 19, Higher-risk Countries; Recommendation 20, Reporting of Suspicious Transactions; Recommendation 21, Tipping-off and

Confidentiality and Regulation 26, Regulation and Supervision of Financial Institutions. Countries should ensure that the legal framework, in particular the Anti-Money Laundering and Counter Terrorist Financing Law and the Financial Intelligence Center Law (should such be in place) are compliant with the FATF Recommendations. AML provisions should, where applicable also be included in other legislation and regulation such as any instruments covering correspondent banking, the use of agents, wire transfers and remittance services.

Competition

Competition law and regulation should contain provisions establishing current jurisdiction of the Competition Authority with other regulatory authorities such as the Central Bank, mandate the competition Authority to enter into MOU's with sector specific regulators, thereby ensuring coordination and harmonization of matters relating to competition by all regulators. Provisions on restrictive

horizontal practices, restrictive vertical practices, abuse of dominance and exemptions should also be contained in the law. Competition laws have particular relevance to practices within the retail payments industry and may have a direct bearing on the regulatory approach to interchange, the existence of the so called no surcharge rule, concerted practices such as price fixing, exclusionary practices such as tying and access matters such as interoperability and membership rules.

Consumer protection

Consumer protection is increasingly recognized as a fundamentally important issue in the ambit of the provision of payment services and the issuing of payment instruments to the public. Title III, Title IV of Directive 2015/2366/EC Payment Services in the Internal Market (PSD2) provide a good example of consumer protection the provisions that should be included in retail payment related laws and regulations.

4.2.2 INTERNATIONAL BEST PRACTICE – SOFT LAWS

This section of the report provides detailed information on the scope and content of the international soft law standards and hard law benchmarks (EU Regulations and Directives) selected as benchmarks. This information is provided as reference material and should be considered by readers when reading the high-level analysis of Nigeria's current legal and regulatory framework in subsequent sections of this report.

The CBN's *Payment System Vision 2020* document makes reference to international best practice on several occasions. In paragraph 4.5.1, it is stated that, "the various rules, regulations and guidelines rolled out by the CBN for promotion, regulation and oversight on payments, clearing and settlement systems [have been] mainly based on the provisions of the CBN Act.²¹⁴ However, the international best practice is to have a clear legislation to provide for the management, administration, operation, regulation, oversight and supervision of payments, clearing and settlements system. In view of the above, the CBN has already articulated a Payments System Management Bill which would be forwarded to the National Assembly (NASS) for passage into law that should address the remaining shortcomings of the existing legal and regulatory framework of the overall payments system in Nigeria."

References to international best practice indicate that the CBN are committed to enacting the best possible legal and regulatory framework in Nigeria and as such, requires an analysis of what is considered to be international best practice. The Core Principles for Systemically Important Payment Systems (CPSIPS), Recommendations for Securities Settlement Systems (RSSS), Recommendations for Central Counterparties (RCCP), Principles for Financial Market Infrastructures and the International Standards on Combating Money Laundering and the Financing of Terrorism and Proliferation: The FATF Recommendations are all referred to as "soft laws". International soft laws encompass the whole range of legal norms, principles, codes of conduct and transaction rules of the state practice that are recognized either in formal or informal multilateral agreements. The use of soft law in multilateral agreements generally connotes the consent of the state to apply them but there is no opinion juris to make them legally binding as rules of customary international law.²¹⁵

Soft laws, unlike Regulations and Directives issued by the European Union, are not legally binding on Member States, they nonetheless create guidelines to deal with certain business exigencies. In this regard,

The primary legal basis for the payment systems infrastructure is the Central Bank of Nigeria Act No. 7of 2007 (CBN Act), which provides CBN with the right and responsibility for national payment systems.

²¹⁵ See Mugarura The Mechanisms for Harmonisation of Global Anti-money Laundering Laws: An Institutional Framework.

Mugarura notes that, "soft law norms contribute to the development of international rules, standards and legal principles that can as time goes on metamorphose into hard law. It therefore has to be said that countries gain immensely from adopting soft law norms such as the Basle Committee's Guidelines on Banking Supervision, and the FATF 40+9 recommendations. In a sense, the adoption of soft law norms is driven by the need to have a working framework capable of applying to different countries. In theory, failure to observe soft law does not amount to a breach of international norms, but in practice it may generate some tensions in countries. Jurisdictions that refuse to cooperate and comply with the recommendations of the FATF are publically blacklisted ('named and shamed'') by FATF and economic sanctions may be imposed against them. When the non-cooperating jurisdiction is a dependency territory, then the blacklisting applies to that territory. In the same respect, the World Bank and the International Monetary Fund have co-opted the Basle and FATF supervisory standards in its monitoring framework for national economies. Therefore, countries seeking to use the World Bank and the Fund's resources are expected to adjust their national economic systems as a condition for lending."

4.2.2.1 Core Principles for Systemically Important Payment Systems (CPSIPS)

The CPSIPS were the first set of internationally recognized standards. Published by the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements (BIS) in January 2001, the 10 principles for the safe and efficient design and operation of systemically important payment systems have over the years become the *de facto standard*. These principles drew extensively from the Report of the Committee on Interbank Netting Schemes of the central banks of the Group of Ten countries (also known as the Lamfalussy Report), which was published in November 1990. The principles were intended to be broad in scope so as to apply to a wide range of circumstances and to be useful over time. The original ten core principles and four responsibilities of central banks in applying the principles are set out in Table 26 below.

Table 26: Ten core principles for Systemically Important Payment Systems and four responsibilities of Central Banks in applying them

	Detail			
I	The system should have a well-founded legal basis under all jurisdictions.			
II	The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.			
III	The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.			
IV	The system should provide prompt and final settlement on the day of value, preferably during the day and at a minimum at the end of the day.			
V	A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.			
VI	Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.			
VI I	The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.			
IX	The system should provide a means of making payments which is practical for its users and efficient for the economy.			
X	The system's governance arrangements should be effective, accountable and transparent.			
	Responsibilities of Central Banks			
A	The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.			
В	The central bank should ensure that the systems it operates comply with the Core Principles.			
С	The Central Bank should oversee compliance with the Core Principles by systems it does not operate and should have the ability to carry			

	out this oversight.
D	The central bank, in promoting payments system safety and efficiency through the Core Principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.

4.2.2.2 Recommendations for Securities Settlement Systems (RSSS)

The CPSIPS were followed by the Recommendations for Securities Settlement Systems (RSSS), which were published jointly by the CPSS and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in November 2001. This report identified 19 recommendations for promoting the safety and efficiency of securities and settlement systems.

4.2.2.3 Recommendations for Central Counterparties (RCCP)

In November 2004, building upon the recommendations established in the RSSS, the CPSS the Technical Committee of IOSCO published the Recommendations for Central Counterparties (RCCP).²¹⁷ The RCCP provides 15 recommendations that addressed the major types of risks faced by CCPs.

4.2.2.4 Principles for Financial Market Infrastructures (PFMI)

The Bank for International Settlements and International Organization of Securities Commissions (IOSCO) Principles for Financial Market Infrastructures (PFMI) 2012 report replaces the previous three sets of standards set out above. The new principles are updated, harmonized and strengthened and apply to payment systems (PSs), Central Securities Depositories (CSDs), Securities Settlement Systems (SSSs), Central Counterparties (CCPs) and Trade Repositories (TRs). These standards are principles based in recognition of the fact that financial market infrastructures (FMIs) often have different approaches to achieving a particular result. ²¹⁸ The twenty-four principles are complemented by five responsibilities of authorities to provide for the effective regulation, supervision and oversight of FMIs.

Table 27: General applicability of principles to specific types of FMIs

		PS	CSD	SSS	ССР	TR
Gene	ral obligations					
1	Legal basis	0				
2	Governance					
3	Framework for the comprehensive management of risks					
Cred	Credit and liquidity risk management					
4	Credit risk		X			X
5	Collateral		X			X
6	Margin	X	X	X		X
7	Liquidity risk	0	X			X

²¹⁶ Bank for International Settlements and International Organization of Securities Commissions (2001) *Recommendations for Securities Settlement Systems*.

Bank for International Settlements and International Organization of Securities Commissions (2004) *Recommendations for Central Counterparties*. A central counterparty is defined as, "an entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer."

FMIs are defied as an FMI is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions.

Settle	Settlement						
8	Settlement finality		X			X	
9	Money Settlements		X			X	
10	Physical deliveries					X	
Centr	al Securities Depositories and Exchange-of-value Settlement Systems						
11	Central Securities Depositories	X		X	X	X	
12	Exchange-of-Value Settlement Systems		X			X	
Defai	ılt Management						
13	Participant-default Rules and Procedures					X	
14	Segregation and portability	X	X	X		X	
Gene	ral Business and Operational Risk Management						
15	General business risk						
16	Custody and investment risks					X	
17	Operational risk						
Acce	SS						
18	Access and Participation Requirements						
19	Tiered Participation Arrangements		X	X	X	X	
20	FMI links	X					
Effic	iency						
21	Efficiency and effectiveness						
22	Communication Procedures and Standards	0					
Trans	parency						
23	Disclosure of Rules, Key Procedures, and Market Data						
24	Disclosure of Market Data by Trade Repositories	X	X	X	X		

Responsibilities of central banks, market regulators, and other relevant authorities for financial market infrastructures: The Principles for Financial Market Infrastructures (PFMI) report is far more comprehensive than the originally published Core Principles for Systemically Important Payment Systems (CPSIPS) report with respect to the roles and responsibilities of central banks, market regulators and other relevant authorities for market infrastructure. The report provides guidance for consistent and effective regulation, supervision, and oversight of FMIs but at the same time cautions that authorities for FMIs should accept and be guided by the responsibilities in the report, but that these should be consistent with relevant national law. These responsibilities listed in the report are consistent with international best practices. The five overarching responsibilities are set out in Table 28 below.

Table 28: Responsibilities of Central Banks, Market Regulators and other relevant authorities

	Detail
A	Regulation, Supervision, and Oversight of FMIs FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.
В	Regulatory, Supervisory, and Oversight Powers and Resources Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.
С	Disclosure of Policies with Respect to FMIs Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and

	oversight policies with respect to FMIs.
D	Application of the Principles for FMIs Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO Principles for financial market infrastructures and apply them consistently.
Е	Cooperation with Other Authorities Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

4.2.2.5 UNCITRAL Model Law on Electronic Commerce (1996)

The United Nations Commission on International Trade Law (UNCITRAL) released the UNCITRAL Law on Electronic Commerce in 1996. This model law has gained significant international acceptance and has been used by several SADC member States as the foundation for their own domestic laws. Davidson notes further that the Model Law does not specifically refer to contract law. Instead it deals with the principle of functional equivalence of electronic media in commercial transactions. [This means] that where the electronic form is functionally equivalent to the traditional form, it should be treated equally by the law. This principle permeates all legislation based on the model law.

A second principle underlying the Model Law is that of **technology neutrality** (the term was chosen in response to the recognition that technology is constantly developing). For example, as 'electronic mail' connotes a certain medium, the Model Law uses the general expression data message. The third relevant principle is that of party autonomy. In this regard Faria notes that, "the model law recognizes the importance of contract and 'party autonomy.' On one hand, its non-mandatory provisions leave the parties free to organize the use of electronic commerce among themselves. On the other hand, some of the Model Law's mandatory provisions allow agreements concluded between the parties to be taken into consideration in assessing whether the nature of the methods used to ensure, for example, the security of messages, is reasonable or appropriate for the purpose." The Model Law addresses the legal recognition of data messages, writing, signatures, originals, admissibility and evidentiary weight of data messages, retention of data messages, the formation and validity of contracts, the recognition by the parties of data messages, attribution of messages, acknowledgement of receipt and the time and place of dispatch and receipt of data messages.

4.2.2.6 The FATF Recommendations

AML/CFT laws and regulations are a vital component of the legal and regulatory framework for payments. The 2012 Financial Action Task Force (FATF) International Standards on Combating Money Laundering and the Financing of Terrorism and Proliferation: The FATF Recommendations contain several recommendations that have direct applicability to payment systems and the provision of payment services. These include:

- Recommendation 10, Customer Due Diligence
- Recommendation 11, Record Keeping
- Recommendation 12, Politically Exposed Persons

²¹⁹ Except in Europe, where directives issued by the European Union have primarily influenced legislation, most countries that have legislated in relation to electronic commerce have used the Model Law on Electronic Commerce as their template.

²²⁰ See Faria Legal Harmonisation Through Model Laws: The Experience of the United Nations Commission on International Trade Law (UNCITRAL) where the author notes that the UNCITRAL Model Law is based on three basic principles: functional equivalence; technology neutrality and party autonomy. "The basic assumption of the Model Law is that traditional legal notions (such as 'document' or 'instrument', 'written' contract, 'signed' or 'sealed' record) need not be replaced by entirely new ones. Instead, the Model Law identifies the circumstances under which the same function envisaged by the law for, say, a 'written contract' may be fulfilled by the exchange of communications in electronic form. The approach taken by the Model Law has been called a 'functional equivalence approach."

- Recommendation 13, Correspondent Banking
- Recommendation 14, Money or Value Transfer Services
- Recommendation 15, New Technologies
- Recommendation 16, Wire Transfers
- Recommendation 17. Reliance on Third Parties
- Recommendation 18, Internal Controls and Foreign Branches and Subsidiaries
- Recommendation 19, Higher-risk Countries
- Recommendation 20, Reporting of Suspicious Transactions
- Recommendation 21, Tipping-off and Confidentiality
- Regulation 26, Regulation and Supervision of Financial Institutions

Countries should ensure that the legal framework, in particular the Anti-Money Laundering and Counter Terrorist Financing Law and the Financial Intelligence Center Law (should such be in place) are compliant with the FATF Recommendations. AML provisions should, where applicable also be included in other legislation and regulation such as any instruments covering correspondent banking, the use of agents, wire transfers and remittance services.

4.2.3 International Best Practice – European Union Directives

In the section that follows, the provisions included in the three primary EU Directives are discussed. Directives are issued by the Council or by the Council together with Parliament (co-decision) and by the Commission. As noted by Mathijsen, directives "constitute the appropriate measure when existing national legislation must be modified or national provisions must be enacted, in most cases for the sake of harmonization. Directives are binding on Member States to which they are addressed, as to the results to be achieved. Although this means that Member States are obliged to take the national measures necessary to achieve the results set out in the directive, they are free to decide how they transpose this piece of Community legislation into national law."²²¹

Several African countries have used the EU directives as an example of international best practice and have drafted their own laws and regulations (to reflect domestic conditions) around these benchmarks. Particular emphasis is placed on the Settlement Finality Directive 2009/44/EC, Electronic Signatures Directive 1999/93/EC, e-Money Directive 2009/110/EC and the Payment Services Directive (EU) 2015/2366 (PSD2).

4.2.3.1 Settlement Finality Directive 98/26/EC (As Amended by Directive 2009/44/EC)

Directive 98/26/EC as amended by Directive 2009/44/EC applies to payment and securities settlement systems as well as any participant in such a system and to collateral security provided in connection with the participation in a system, or operations of the central banks of the Member States in their functions as central banks. Directive 98/26/EC as amended by Directive 2009/44/EC contains provisions on:

- Designation of Payment and Securities Settlement Systems;
- Transfer orders and netting (legal enforceability of transfer orders and netting, irrevocability of transfer orders, no unwinding of netting);
- Insolvency proceedings (non-retroactivity of insolvency proceedings, determination of applicable law) and;
- Collateral security (e.g. insulation from insolvency proceedings, determination of the law applicable to cross-border provision of collateral security).

²²¹ See Mathijsen P *A Guide to European Union Law* (2004).

Designation of Payment and Securities Settlement Systems: Articles 6 and 10 of Directive 98/26/EC as amended by Directive 2009/44/EC require Member States to notify to the Commission of which systems they have designated and which national authorities are in charge of notification. The Commission holds two registers with this information. They are up-dated whenever Member States send new information to the Commission. Specifically, Article 10(1) reads:

"Member States shall specify the systems, and the respective system operators, which are to be included in the scope of this Directive and shall notify them to the Commission and inform the Commission of the authorities they have chosen in accordance with Article 6(2). The system operator shall indicate to the Member State whose law is applicable the participants in the system, including any possible indirect participants, as well as any change in them. In addition to the indication provided for in the second subparagraph, Member States may impose supervision or authorization requirements on systems which fall under their jurisdiction. An institution shall, on request, inform anyone with a legitimate interest of the systems in which it participates and provide information about the main rules governing the functioning of those systems."

Transfer Orders and Netting: Articles 3, 4 and 5 contain provisions on transfer orders and netting.

- Article 3(1) provides that transfer orders and netting shall be legally enforceable and binding on third parties even in the event of insolvency proceedings against a participant, provided that transfer orders were entered into the system before the moment of opening of insolvency proceedings as defined in Article 6(1). This applies even in the event of insolvency proceedings against a participant (in the system concerned or in an interoperable system) or against the system operator of an interoperable system that is not a participant.
- Article 3(2) is an override provision and states that "no law, regulation, rule or practice on the setting aside of contracts and transactions concluded before the moment of opening of insolvency proceedings, as defined shall lead to the unwinding of a netting."
- Article 3(4) inserted by Directive 2009/44/EC makes specific reference to interoperable systems and states that each system must determine in its own rules the moment of entry into its system, in such a way as to ensure, to the extent possible, that the rules of all interoperable systems concerned are coordinated. Further, "unless expressly provided for by the rules of all the systems that are party to the interoperable systems, one system's rules on the moment of entry shall not be affected by any rules of the other systems with which it is interoperable."
- Article 4 permits Member States to provide that the opening of insolvency proceedings against a participant or a system operator of an interoperable system shall not prevent funds or securities available on the settlement account of that participant from being used to fulfill that participant's obligations in the system or in an interoperable system on the business day of the opening of the insolvency proceedings. Member States may also provide that such a participant's credit facility connected to the system be used against available, existing collateral security to fulfill that participant's obligations in the system or in an interoperable system.
- Article 5 prohibits a transfer order from being revoked by a participant in a system, nor by a third party, from the moment defined by the rules of that system.

Insolvency Proceedings: Insolvency proceedings are covered in Articles 6 to 8 of Directive 98/26/EC.

- Article 6 defines the moment of opening of insolvency proceedings as the moment when the relevant judicial or administrative authority handed down its decision. The relevant judicial or administrative authority is required to immediately notify the appropriate authority chosen by its Member State of the insolvency decision. Member States are also required to immediately notify other Member States of the decision.226
- Article 7 confirms that insolvency proceedings shall not have retroactive effects on the rights and obligations of a participant arising from, or in connection with, its participation in a system before

the moment of opening of such proceedings. This applies, inter alia, as regards the rights and obligations of a participant in an interoperable system, or of a system operator of an interoperable system that is not a participant.

Collateral Security: Article 9 of Directive 98/26/EC provides for the insulation of the rights of holders of collateral security from the effects of the insolvency of the provider. The rights of a system operator or of a participant to collateral security provided to them in connection with a system or any interoperable system, and the rights of central banks of the Member States or the European Central Bank to collateral security provided to them, are not affected by insolvency proceedings against:

- The participant (in the system concerned or in an interoperable system);
- The system operator of an interoperable system which is not a participant;
- A counterparty to central banks of the Member States or the European Central Bank; or
- Any third party that provided the collateral security.

Article 9(2) reads, "where securities including rights in securities are provided as collateral security to participants, system operators or to central banks of the Member States or the European Central Bank as described in paragraph 1, and their right or that of any nominee, agent or third party acting on their behalf with respect to the securities is legally recorded on a register, account or centralized deposit system located in a Member State, the determination of the rights of such entities as holders of collateral security in relation to those securities shall be governed by the law of that Member State."

4.2.3.2 Electronic Signatures Directive 1999/93/EC

Directive 1999/93/EC established the legal framework at European level for electronic signatures and certification services, thereby allowing the free flow of electronic signature products and services across borders and ensuring a basic legal recognition of electronic signatures. The three forms of electronic signature that the Directive addresses are:

- 1. The simplest form of the "electronic signature" which serves to identify and authenticate data (as simple as signing an e-mail message with a person's name or using a PIN-code);²²²
- 2. The "advanced electronic signature" (which uses encryption technology to sign data, and requires a public and a private key);²²³
- 3. The "qualified electronic signature" (an advanced electronic signature based on certification and the use of a secure-signature-creation device that has to comply with the requirements in Annex I, II and III of the Directive, which aims to meet the legal requirements of a hand written signature). 224

Legal Effects of Electronic Signatures: Article 5(1) of Directive 1999/93/EC requires Member States to ensure that advanced electronic signatures which are based on a qualified certificate and which are created by a secure-signature-creation device satisfy the legal requirements of a signature in relation to data in electronic form in the same manner as a handwritten signature satisfies those requirements in relation to paper-based data and are admissible as evidence in legal proceedings. Secure-signature-creation devices must meet the requirements laid down in Annex III.

²²² 'Electronic signature' means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication (Article 2(1).

An advanced electronic signature is defined as an, "electronic signature which meets the following requirements: (a) it is uniquely linked to the signatory; (b) it is capable of identifying the signatory; (c) it is created using means that the signatory can maintain under his sole control; and (d) it is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable (Article 1(2)."

Annex 1 sets out the requirements for qualified certificates, Annex II the requirements for certification-service-providers issuing qualified certificates and Annex III, the requirements for secure signature-creation devices.

Article 5(2) requires Member States to ensure that an electronic signature is not denied legal effectiveness and admissibility as evidence in legal proceedings solely on the grounds that it is: in electronic form, or not based upon a qualified certificate, or not based upon a qualified certificate issued by an accredited certification service-provider, or not created by a secure signature-creation device.

Liability of a Certification Service-provider: Member States must ensure that by issuing a certificate as a qualified certificate to the public or by guaranteeing such a certificate to the public a certification service provider is liable for damage caused to any entity or legal or natural person who reasonably relies on that certificate:

- As regards the accuracy at the time of issuance of all information contained in the qualified certificate and as regards the fact that the certificate contains all the details prescribed for a qualified certificate (Article 6(1)(a));
- For assurance that at the time of the issuance of the certificate, the signatory identified in the qualified certificate held the signature-creation data corresponding to the signature verification data given or identified in the certificate (Article 6(1)(b));
- For assurance that the signature-creation data and the signature-verification data can be used in a complementary manner in cases where the certification-service-provider generates them both (Article 6(1)(c)); unless the certification-service-provider proves that he has not acted negligently.

Data Protection: Member States are required to ensure that certification-service providers and national bodies responsible for accreditation or supervision comply with the requirements laid down in Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on tile protection of individuals with regard to the processing of personal data and on the free movement of such data (Article 8(1)). As such, Member States must ensure that a certification-service provider that issues certificates to the public may collect personal data only directly from the data subject, or after the explicit consent of the data subject, and only insofar as it is necessary for the purposes of issuing and maintaining the certificate. The data may not be collected or processed for any other purposes without the explicit consent of the data subject (Article 8(2)).

4.2.3.3 Directive 2009/110/EC on the Taking Up, Pursuit and Prudential Supervision of the Business of Electronic Money Institutions

Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amends Directives 2005/60/EC236 and 2006/48/EC237 and repeals Directive 2000/46/EC238. Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions was adopted in response to the emergence of new pre-paid electronic payment products and was intended to create a clear legal framework designed to strengthen the internal market while ensuring an adequate level of prudential supervision. ²²⁵ In its review of Directive 2000/46/EC the Commission highlighted the need to revise the first electronic-money Directive since some of its provisions were considered to have hindered the emergence of a true single market for electronic money services and the development of such user-friendly services. ²²⁶

Box 13: Defining e-Money

226 Recital 2.

Recital 1 of Directive 2009/110/EC.

What is e-Money: A recent CGAP report states that, "the cornerstone of DFS is the issuance of electronic money." Further that, "the cornerstone of many DFS frameworks is the legal and regulatory regime that governs e-money. This comprises rules on e-commerce, authorization and oversight of e-money providers, and allocation of activities to distinct service and regulatory fields, such as banking and payment systems."²²⁷

E-money is obtained by customers, who exchange notes and coins for an electronic surrogate for physical money, with the equivalent value. The customer therefore exchanges cash for an electronic means of making payment. This can be used in the same way as cash or other forms of card payments but without the requirement of third party authorization.²²⁸

Smart card based e-money schemes have been launched and are operating in many countries around the world. Network based or software based e-money schemes have been less rapid in their expansion but are nevertheless significant in the payments regulatory environment. Mobile phone technology is an ideal technology platform to introduce payment products and services. The phenomenal growth experienced by the mobile phone industry together with the mobile phone networks' desire to introduce additional value added services for their clients, has resulted in the emergence of so called Mobile Money products and services. Mobile Money should however not be regulated in isolation and should be a subset of the larger e-money regulatory framework. Mobile money is in fact just a specific type of e-money.

In some countries such as South Africa, e-money may only be issued by prudentially regulated banks. This is referred to by some as the *Provider Based Licensing Regime* as it restricts the issuing of e-money to existing financial institutions only (that is to the type of provider). Under this approach, mobile network providers and or non-bank institutions may not issue e-money directly and if they want to be involved in this space are required to partner with a prudentially regulated bank. The bank is therefore the financial services provider and the non-bank the outsourcing partner.

Allowing both banks and non-banks to issue e-money is referred to as a *Service-based Licensing Regime* as this looks at the service rather than the provider. Both banks and non-banks (including MNOs) are allowed to issue e-money provided that they acquire the appropriate license or authorization and follow the relevant regulations (should such be in place). This approach is known as a technology-neutral approach as it does not matter what type of provider or technology is used to make a transaction. What matters under this approach is the service provided. If regulators take the decision to allow non-bank issuers to issue e-money, suitable regulation must be put in place, as, without it, there is no guarantee that the provider will have the liquidity to honor the customer's claims.

In response to this, more and more countries are beginning to issue separate directives and regulations applicable to the regulation of non-bank issuers of e-money. Several of these regulations and directives take into account the revised FATF guidance on the risk-based approach and refer to lower-risk circumstances which include, "financial products or services that provide appropriately defined and limited services to certain types of customers, so as to increase access for financial inclusion purposes." In order to qualify as lower risk, e-money products are usually capped with limits in terms of transactions – number of transactions and amounts transacted as well as balances.

The EU Commission's efforts to create a level playing field and to encourage the entrance of non-bank players into the payments and emoney market has brought about a "three-track regulatory regime" consisting of traditional credit institutions (deposit taking banks), the introduction of payment institutions and the launching of a new e-money institution. This resulted in the regulation of these institutions under three different directives, each with different licensing, authorization, prudential and market conduct requirements.

The Directive is divided into four Titles, with Title II covering the requirements for the taking up, pursuit and prudential supervision if the business of electronic money institutions and Title III covering the issuance and redeemability of electronic money (Figure 22).

²²⁷ CGAP (2017) Regulatory Framework for Digital Financial Services in Côte d'Ivoire.

²²⁸ "Electronic money" means electronically, including magnetically, stored monetary value as represented by a claim on the issuer which is issued on receipt of funds for the purpose of making payment transactions as defined in point 5 of Article 4 of Directive 2007/64/EC, and which is accepted by a natural or legal person other than the electronic money issuer (Article 2(2))."

Langhan S and Smith K (2014) The Legal and Regulatory Framework for Payments in 14 SADC Member States.

Figure 22: Scope and content of the E-Money Directive



REQUIREMENTS FOR THE TAKING UP, PURSUIT AND PRUDENTIAL SUPERVISION OF THE BUSINESS OF ELECTRONIC MONEY INSTITUTIONS

Article 3: General prudential rules
Article 4: Initial capital
Article 5: Own funds
Article 6: Activities

Article 7: Safeguarding requirements Article 8: Relations with third countries Article 9: Optional exemptions



ISSUANCE AND REDEEMABILITY OF ELECTRONIC MONEY

Article 10: Prohibition from issuing electronic money Article 11: Issuance and redeemability

Article 11: Issuance and redeemability
Article 12: Prohibition of interest

Article 13: Out-of-court complaint and redress procedures for the settlement of disputes

The Directive does not apply to monetary value stored on specific pre-paid instruments, designed to address precise needs that can be used only in a limited way, because they allow the electronic money holder to purchase goods or services only in the premises of the electronic money issuer or within a limited network of service providers under direct commercial agreement with a professional issuer, or because they can be used only to acquire a limited range of goods or services (Recital 5). The Directive is also not applicable to monetary value that is used to purchase digital goods or services, where, by virtue of the nature of the good or service, the operator adds intrinsic value to it, e.g. in the form of access, search or distribution facilities, provided that the good or service in question can be used only through a digital device, such as a mobile phone or a computer, and provided that the telecommunication, digital or information technology operator does not act only as an intermediary between the payment service user and the supplier of the goods and services (Recital 6). ²³¹

Recital 13 clarifies the European Parliament and the Council's view that the issuance of electronic money does not constitute deposit-taking. Specifically, Recital 13 reads,

"The issuance of electronic money does not constitute a deposit-taking activity pursuant to Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions, in view of its specific character as an electronic surrogate for coins and banknotes, which is to be used for making payments, usually of limited amount and not as means of saving. Electronic money institutions should not be allowed to grant credit from the funds received or held for the purpose of issuing electronic money. Electronic money issuers should not, moreover, be allowed to grant interest or any other benefit unless those benefits are not related to the length of time during which the electronic

Recital 5 states further that, "an instrument should be considered to be used within such a limited network if it can be used only either for the purchase of goods and services in a specific store or chain of stores, or for a limited range of goods or services, regardless of the geographical location of the point of sale. Such instruments could include store cards, petrol cards, membership cards, public transport cards, meal vouchers or vouchers for services (such as vouchers for childcare, or vouchers for social or services schemes which subsidize the employment of staff to carry out household tasks such as cleaning, ironing or gardening), which are sometimes subject to a specific tax or labor legal framework designed to promote the use of such instruments to meet the objectives laid down in social legislation."

Recital 6 states further that, "this is a situation where a mobile phone or other digital network subscriber pays the network operator directly and there is neither a direct payment relationship nor a direct debtor-creditor relationship between the network subscriber and any third-party supplier of goods or services delivered as part of the transaction."

money holder holds electronic money. The conditions for granting and maintaining authorization as electronic money institutions should include prudential requirements that are proportionate to the operational and financial risks faced by such bodies in the course of their business related to the issuance of electronic money, independently of any other commercial activities carried out by the electronic money institution."

General Prudential Rules: Article 3 sets out the general prudential rules applicable to E-Money institutions. Article 3(2) requires electronic money institutions to inform the competent authorities in advance of any material change in measures taken for safeguarding of funds that have been received in exchange for electronic money issued. Article 3(4) permits Member States to allow electronic money institutions to distribute and redeem electronic money through natural or legal persons that act on their behalf. Where the electronic money institution wishes to distribute electronic money in another Member State by engaging such a natural or legal person, it is required to follow the procedure set out in Article 25 of Directive 2007/64/EC. However, notwithstanding Article 3(4), electronic money institutions may not issue electronic money through agents. Electronic money institutions are allowed to provide payment services referred to in Article 6(1)(a) through agents only if the conditions in Article 17 of Directive 2007/64/EC are met.²³²

Initial Capital: As per Article 4, Member States must require electronic money institutions to hold, at the time of authorization, initial capital, comprised of the items set out in Article 57(a) and (b) of Directive 2006/48/EC, of not less than EUR 350,000.²³³

Own Funds: The electronic money institution's own funds, as set out in Articles 57 to 61, 63, 64 and 66 of Directive 2006/48/EC must not fall below the amount required under paragraphs 2 to 5 of Article 5 or under Article 4 of this Directive, whichever the higher. Activities: Article 6 sets out the activities that electronic money issuers may engage in. These activities are in addition to the issuing of electronic money and are set out in Table 29 below.

Article	e Listed Activity			
6(1)(a)	The provision of payment services listed in the Annex to Directive 2007/64/EC.			
6(1)(b)	The granting of credit related to payment services referred to in points 4, 5 or 7 of the Annex to Directive 2007/64/EC, where the conditions laid down in Article 16(3) and (5) of that Directive are met. ²³⁴			
6(1)(c)	The provision of operational services and closely related ancillary services in respect of the issuing of electronic money or to the provision of payment services referred to in 6(1)(a).			
6(1)(d)	The operation of payment systems as defined in point 6 of Article 4 of Directive 2007/64/EC and without prejudice to Article 28 of that Directive.			
6(1)(e)	Business activities other than issuance of electronic money, having regard to the applicable Community and national law.			

Table 29: Activities that electronic money issuers may engage in

Article 6(2) makes it quite clear that electronic money institutions may not take deposits or other repayable funds from the public within the meaning of Article 5 of Directive 2006/48/EC. ²³⁵ As such, any

Article 3(5).

Article 57(a) and (b) of Directive 2006/48/EC read, "subject to the limits imposed in Article 66, the unconsolidated own funds of credit institutions shall consist of the following items: (a) capital within the meaning of Article 22 of Directive 86/635/EEC, in so far as it has been paid up, plus share premium accounts but excluding cumulative preferential shares; (b) reserves within the meaning of Article 23 of Directive 86/635/EEC and profits and losses brought forward as a result of the application of the final profit or loss."

It is important to note that the credit referred to in 6(1)(b) may not be granted from the funds received in exchange of electronic money and held in accordance with Article 7(1).

funds received by electronic money institutions from the electronic money holder must be exchanged for electronic money without delay. Such funds do not constitute either a deposit or other repayable funds received from the public within the meaning of Article 5 of Directive 2006/48/EC.²³⁶

Safeguarding Requirements: Member States must require electronic money institutions to safeguard funds that have been received in exchange for electronic money issued. This is in accordance with Article 9(1) and (2) of Directive 2007/64/EC. Funds received in the form of payment by payment instrument need not be safeguarded until they are credited to the electronic money institution's payment account or are otherwise made available to the electronic money institution in accordance with the execution time requirements laid down in the Directive 2007/64/EC, where applicable. In any event, such funds must be safeguarded by no later than five business days after the issuance of electronic money. 237

Optional Exemptions (Small Electronic Money Institutions): Member States may waive or allow their competent authorities to waive the application of all or part of the procedures and conditions set out in Articles 3, 4, 5 and 7 of Directive 2009/110/EC, with the exception of Articles 20, 22, 23 and 24 of Directive 2007/64/EC, and allow legal persons to be entered in the register for electronic money institutions if both of the following requirements are complied with:

- 1. The total business activities generate an average outstanding electronic money that does not exceed limit set by the Member State but that, in any event, amounts to no more than EUR 5 000 000: and
- 2. None of the natural persons responsible for the management or operation of the business has been convicted of offences relating to money laundering or terrorist financing or other financial crimes.
- 3. Member States may also provide for the granting of the optional exemptions under Article 9 to be subject to an additional requirement of a maximum storage amount on the payment instrument or payment account of the consumer where the electronic money is stored.

Issuance and Redeemability: Electronic money must be issued at par value on the receipt of funds. ²³⁸ The contract between the electronic money issuer and the electronic money holder must clearly and prominently state the conditions of redemption, including any fees relating thereto, and the electronic money holder shall be informed of those conditions before being bound by any contract or offer.²³⁹ Redemption may be subject to a fee only if stated in the contract and only in any of the following cases: (a) where redemption is requested before the termination of the contract; (b) where the contract provides for a termination date and the electronic money holder terminates the contract before that date; or (c) where redemption is requested more than one year after the date of termination of the contract. These fees must be proportionate and commensurate with the actual costs incurred by the electronic money issuer. ²⁴⁰

Prohibition of Interest: Electronic money Issuers are prohibited from the granting of interest or any other benefit related to the length of time during which an electronic money holder holds the electronic money.

Article 5 of Directive 2006/48/EC reads, "Member States shall prohibit persons or undertakings that are not credit institutions from carrying on the business of taking deposits or other repayable funds from the public. The first paragraph shall not apply to the taking of deposits or other funds repayable by a Member State or by a Member State's regional or local authorities or by public international bodies of which one or more Member States are members or to cases expressly covered by national or Community legislation, provided that those activities are subject to regulations and controls intended to protect depositors and investors and applicable to those cases."

Article 6(3) Directive 2009/110/EC.

Article 7(1).

²³⁸ Article 11(1).

²³⁹ Article 11(3).

²⁴⁰ Article 11(4).

4.2.3.4 Directive (EU) 2015/2366 Payment Service in the Internal Market

Directive (EU) 2015/2366 Payment Service in the Internal Market "aims to create a harmonized legal framework for payments (seeking in particular to establish a legal basis for SEPA), thereby ensuring that cross-border payments within the European Union (particularly credit transfers, direct debits and card payments) can be carried out just as easily, efficiently and securely as domestic payments within the various Member States. It also establishes the concept of "payment institutions" – licensed payment service providers that are able to provide payment services across the European Union under lighter supervisory regime than banks. By opening up the market in this way, the European legislator is seeking to allow new service providers to compete with existing participants on a level playing field, thereby facilitating greater competition."²⁴¹

PSD2 is divided into five distinct Titles. Title I covers subject matter, scope and definitions, Title II – Payment Service Providers, Title III – Transparency of Conditions and Information Requirements, Title IV – Rights and Obligations in Relation to the Provision of Payment Services, Title V – Delegated Acts and Regulatory Technical Standards.

4.2.3.4.1 Title 1- Subject matter and scope of the Directive

Figure 23: Title I



The PSD lays down the rules in accordance with which Member States must distinguish between the following six categories of payment service providers (to whom the Directive is applicable):

- 1. Credit institutions as defined in point (1) of Article 4(1) of Regulation (EU) No 575/2013 of the European Parliament and of the Council;
- 2. Electronic money institutions within the meaning of point (1) of Article 2 of Directive 2009/110/EC;
- 3. Post office giro institutions which are entitled under national law to provide payment services;
- 4. Payment institutions;
- 5. The ECB and national central banks when not acting in their capacity as monetary authority or other public authorities;
- 6. Member States or their regional or local authorities when not acting in their capacity as public authorities. 242

The PSD applies to payment services provided within the Community. The payment services falling within the scope of the PSD are listed in the Annex and summarized in Table 30 below.

See Rambure D and Nacamuli N *Payment Systems: From the Salt Mines to the Board Room* (2008) 79 where the authors note that, "the PSD opens the door for non-banks to provide payment services, either as a sole activity or alongside their core business, such as mobile telephone operators: these PSPs, designated Payment Institutions (PI), will be subject to much lighter capital requirements and regulatory supervision than credit institutions which, as could be expected, met with some resistance from the banking sector. The supervision of these PIs is left to the discretion of each Member State and they can offer their services throughout the EU if authorized by one Member State (EU passporting principle)."

Article 1(1)(a) - 1(1)(f).

Table 30: Payment services to which the PSD applies ("The Annex")

Payı	ment s	ervices defined
	1	Services enabling cash to be placed on a payment account as well as all the operations required for operating a payment account.
	2	Services enabling cash withdrawals from a payment account as well as all the operations required for operating a payment account.
	3	Execution of payment transactions, including transfers of funds on a payment account with the user's payment service provider or with another payment service provider: (a) execution of direct debits, including one-off direct debits; (b) execution of payment transactions through a payment card or a similar device; (c) execution of credit transfers, including standing orders.
	4	Execution of payment transactions where the funds are covered by a credit line for a payment service user: (a) execution of direct debits, including one-off direct debits; (b) execution of payment transactions through a payment card or a similar device; (c) execution of credit transfers, including standing orders.
	5	Issuing of payment instruments and/or acquiring of payment transactions.
	6	Money remittance.
	7	Payment initiation services.
	8	Account information services.

The Directive does not apply to the following exclusions:

Table 31: Exclusions

Exc	lusions	
Х	3(a)	Payment transactions made exclusively in cash directly from the payer to the payee, without any intermediary intervention.
X 3(b) Payment transactions from the payer to the payee through a commercial agent authorized via an agreement to negotiate conclude the sale or purchase of goods or services on behalf of only the payer or only the payee.		
X	3(c)	Professional physical transport of banknotes and coins, including their collection, processing and delivery.
X	3(d)	Payment transactions consisting of the non-professional cash collection and delivery within the framework of a non-profit or charitable activity;
X	3(e)	Services where cash is provided by the payer to the payer as part of a payment transaction following an explicit request by the payment service user just before the execution of the payment transaction through a payment for the purchase of goods or services.
X	3(f)	Cash-to-cash currency exchange operations where the funds are not held on a payment account.
X	3(g)	Payment transactions based on any of the following documents drawn on the payment service provider with a view to placing funds at the disposal of the payee: (i) paper checks governed by the Geneva Convention of 19 March 1931 providing a uniform law for checks; (ii) paper checks similar to those referred to in point (i) and governed by the laws of Member States which are not party to the Geneva Convention of 19 March 1931 providing a uniform law for checks; (iii) paper-based drafts in accordance with the Geneva Convention of 7 June 1930 providing a uniform law for bills of exchange and promissory notes; (iv) paper-based drafts similar to those referred to in point (iii) and governed by the laws of Member States which are not party to the Geneva Convention of 7 June 1930 providing a uniform law for bills of exchange and promissory notes; (v) paper-based vouchers; (vi) paper-based traveler's checks; (vii) paper-based postal money orders as defined by the Universal Postal Union;
X	3(h)	Payment transactions carried out within a payment or securities settlement system between settlement agents, central counterparties, clearing houses and/or central banks and other participants of the system, and payment service providers, without prejudice to Article 35.
X	3(i)	Payment transactions related to securities asset servicing, including dividends, income or other distributions, or redemption or sale, carried out by persons referred to in point (h) or by investment firms, credit institutions, collective investment undertakings or asset management companies providing investment services and any other entities allowed to have the custody of financial instruments.
X	3(j)	Services provided by technical service providers, which support the provision of payment services, without them entering at any time into possession of the funds to be transferred, including processing and storage of data, trust and privacy protection services,

		data and entity authentication, information technology (IT) and communication network provision, provision and maintenance of terminals and devices used for payment services, with the exclusion of payment initiation services and account information services.
X	3(k)	Services based on specific payment instruments that can be used only in a limited way, that meet one of the following conditions: (i) instruments allowing the holder to acquire goods or services only in the premises of the issuer or within a limited network of service providers under direct commercial agreement with a professional issuer; (ii) instruments which can be used only to acquire a very limited range of goods or services; (iii) instruments valid only in a single Member State provided at the request of an undertaking or a public sector entity and regulated by a national or regional public authority for specific social or tax purposes to acquire specific goods or services from suppliers having a commercial agreement with the issuer;
X	3(1)	Payment transactions by a provider of electronic communications networks or services provided in addition to electronic communications services for a subscriber to the network or service: (i) for purchase of digital content and voice-based services, regardless of the device used for the purchase or consumption of the digital content and charged to the related bill; or (ii) performed from or via an electronic device and charged to the related bill within the framework of a charitable activity or for the purchase of tickets. ²⁴³
X	3(m)	Payment transactions carried out between payment service providers, their agents or branches for their own account.
X	3(n)	Payment transactions and related services between a parent undertaking and its subsidiary or between subsidiaries of the same parent undertaking, without any intermediary intervention by a payment service provider other than an undertaking belonging to the same group
X	3(0)	Cash withdrawal services offered by means of ATM by providers, acting on behalf of one or more card issuers, which are not a party to the framework contract with the customer withdrawing money from a payment account, on condition that those providers do not conduct other payment services as referred to in Annex I. Nevertheless the customer shall be provided with the information on any withdrawal charges referred to in Articles 45, 48, 49 and 59 before carrying out the withdrawal as well as on receipt of the cash at the end of the transaction after withdrawal.

4.2.3.4.2 Title II - Payment Service Providers – Payment Institutions

Figure 24: Title II



Section 1: General Rules CHAPTER 1: PAYMENT INSTITUTIONS

Article 5: Applications for authorisation

Article 6: Control of the shareholding

Article 7: Initial capital

Article 8: Own funds

Article 9: Calculation of own funds

Article 10: Safeguarding requirements

Article 11: Granting of authorisation

Article 12: Communication of the decision

Article 13:Withdrawal of authorisation

Article 14: Registration in the home Member State

Article 15: EBA register

Article 16: Maintenance of authorisation

Article 17: Accounting and statutory audit

Article 18: Activities

Provided that the value of any single payment transaction referred to in points (i) and (ii) does not exceed EUR 50 and: — the cumulative value of payment transactions for an individual subscriber does not exceed EUR 300 per month, or— where a subscriber pre-funds its account with the provider of the electronic communications network or service, the cumulative value of payment transactions does not exceed EUR 300 per month

Section 2: Other provisions

Article 19: Use of agents, branches or entities to which activities are outsourced

Article 20: Liability

Article 21: Record-keeping

Section 3: Competent authorities and supervision

Article 22: Designation of competent authorities

Article 23: Supervision

Article 24: Professional secrecy

Article 25: Right to apply to the courts

Article 26: Exchange of information

Article 27: Settlement of disagreements between competent authorities of different Member States

Article 28:Application to exercise the right of establishment and freedom to provide services

Article 29: Supervision of payment institutions exercising the right of establishment and freedom to provide services

Article 30: Measures in case of non-compliance, including precautionary measures

Article 31: Reasons and communication

Section 4: Exemptions

Article 32: Conditions

Article 33:Account information service providers

Article 34: Notification and information

Title II of the Directive is a very long title and covers the following articles: Authorization applications for payment institutions (Article 5); control of shareholding (Article 6); initial capital (Article 7); own funds (Article 8); calculation of own funds (Article 9); safeguarding (Article 10); requirements; granting of authorization (Article 11); communication of decision (Article 12); withdrawal of authorization (Article 13); registration at home member state (Article 14); EBA register (Article 15); maintenance of authorization (Article 16); accounting and statutory audit (Article 17); additional activities (Article 18); the use of agents, branches or entities to which activities are outsourced (Article 19) Liability (Article 20); record keeping (Article 21); designation of competent authorities (Article 22); supervision (Article 23); professional secrecy (Article 24); right to apply to the courts (Article 25); Exchange of information (Article 26); settlement of disagreements between competent authorities of different Member States (Article 27); application to exercise the right of establishment and freedom to provide services (Article 28); supervision of payment institutions exercising the right of establishment and freedom to provide services (Article 29); measures in case of non-compliance, including precautionary measures (Article 30) reasons and communication (Article 31); conditions for exemption (Article 32); account information services (Article 33); notification and information (Article 34); access to payment systems (Article 35); access to accounts maintained with a credit institution (Article 36); and prohibition of persons other than payment service providers from providing payment services and duty of notification (Article 37).

A full analysis of each of these Articles is beyond the scope of this report, however, those which would have direct application within the Nigerian context should a Payment Service Provider law/regulation be considered by the CBN are summarized below.

Application for authorization: Payment System Institutions must be authorized as such. Article 5 contains a comprehensive list of the documents that must be submitted to the competent authority in each Member State.

Initial capital: Member States must require payment institutions to hold, at the time of authorization, initial capital, comprised of one or more of the items referred to in Article 26(1)(a) to (e) of Regulation (EU) No 575/2013 as follows:

- 1. Where the payment institution provides only the payment service as referred to in point (6) of Annex I²⁴⁴, its capital shall at no time be less than EUR 20,000;
- 2. Where the payment institution provides the payment service as referred to in point (7) of Annex I²⁴⁵, its capital shall at no time be less than EUR 50,000;
- 3. Where the payment institution provides any of the payment services as referred to in points (1) to (5) of Annex I, its capital shall at no time be less than EUR 125,000.

Own funds: The payment institution's own funds, may not fall below the amount of initial capital as referred to in Article 7 or the amount of own funds as calculated in accordance with Article 9 of this Directive, whichever is the higher.

Safeguarding requirements: In terms of Article 10, Member States or competent authorities must require a payment institution which provides payment services as referred to in points (1) to (6) of Annex I to safeguard all funds which have been received from the payment service users or through another payment service provider for the execution of payment transactions, in either of the following ways:

- Funds must not be commingled at any time with the funds of any natural or legal person other than payment service users on whose behalf the funds are held and, where they are still held by the payment institution and not yet delivered to the payee or transferred to another payment service provider by the end of the business day following the day when the funds have been received, they shall be deposited in a separate account in a credit institution or invested in secure. liquid low-risk assets as defined by the competent authorities of the home Member State; and they must be insulated in accordance with national law in the interest of the payment service users against the claims of other creditors of the payment institution, in particular in the event of insolvency;
- Funds must be covered by an insurance policy or some other comparable guarantee from an insurance company or a credit institution, which does not belong to the same group as the payment institution itself, for an amount equivalent to that which would have been segregated in the absence of the insurance policy or other comparable guarantee, payable in the event that the payment institution is unable to meet its financial obligations.

Communication of the decision: Within 3 months of receipt of an application or, if the application is incomplete, of all of the information required for the decision, the competent authorities must inform the applicant whether the authorization is granted or refused. The competent authority shall give reasons where it refuses an authorization.

Withdrawal of authorization: As per Article 12. Competent authorities may withdraw authorization issued to a payment institution only if the institution does not make use of the authorization within 12 months, expressly renounces the authorization or has ceased to engage in business for more than 6 months, if the Member State concerned has made no provision for the authorization to lapse in such cases; has obtained the authorization through false statements or any other irregular means; no longer meets the conditions for granting the authorization or fails to inform the competent authority on major developments in this respect; or would constitute a threat to the stability of or the trust in the payment system by continuing its payment services business.

Additional activities: Article 18 sets out the additional activities that payment institutions may engage in. These are over and above the provision of payment services and are summarized in Table 32 below.

Money remittance.

Payment initiation services.

Table 32: Additional activities that payment institutions may engage in

Ref Activity		Detail			
18(1)(a)	Closely related ancillary services	The provision of operational and closely related ancillary services such as ensuring the execution of payment transactions, foreign exchange services, safekeeping activities, and the storage and processing of data			
Operation of payment systems		The operation of payment systems, without prejudice to Article 35.			
Business activities 18(1)(c)		Business activities Business activities other than the provision of payment services, having regard to applicable Union and national law.			
18(4)	Credit	Payment institutions may grant credit relating to payment services as referred to in point (4) or (5) of Annex I only if all of the following conditions are met: (a) the credit shall be ancillary and granted exclusively in connection with the execution of a payment transaction; (b) notwithstanding national rules on providing credit by credit cards, the credit granted in connection with a payment and executed in accordance with Article 11(9) and Article 28 shall be repaid within a short period which shall in no case exceed 12 months; (c) such credit shall not be granted from the funds received or held for the purpose of executing a payment transaction; (d) the own funds of the payment institution shall at all times and to the satisfaction of the supervisory authorities be appropriate in view of the overall amount of credit granted.			

The use of agents: Article 19 is a simple provision and covers the use of agents, branches or entities to which activities are outsourced. This article requires that where a payment institution intends to provide payment services through an agent it must communicate the following information to the competent authorities in its home Member State:

- 1. The name and address of the agent;
- 2. A description of the internal control mechanisms that will be used by the agent in order to comply with the obligations in relation to money laundering and terrorist financing under Directive (EU) 2015/849, to be updated without delay in the event of material changes to the particulars communicated at the initial notification:
- 3. The identity of directors and persons responsible for the management of the agent to be used in the provision of payment services and, for agents other than payment service providers, evidence that they are fit and proper persons;
- 4. The payment services of the payment institution for which the agent is mandated; and
- 5. Where applicable, the unique identification code or number of the agent.

Within 2 months of receipt of the information referred to above, the competent authority of the home Member State must communicate to the payment institution whether the agent has been entered in the register provided for in Article 14. Upon entry in the register, the agent may commence providing payment services. In terms of liability, payment institutions remain fully liable for any acts of their employees, or any agent, branch or entity to which activities are outsourced.²⁴⁶

Supervision: Member States are required to ensure that the controls exercised by the competent authorities for checking continued compliance with this Title are proportionate, adequate and responsive to the risks to which payment institutions are exposed. ²⁴⁷ Competent authorities may take the following steps: (a) require the payment institution to provide any information needed to monitor compliance specifying the purpose of the request, as appropriate, and the time limit by which the information is to be provided; (b) carry out on-site inspections at the payment institution, at any agent or branch providing payment services under the responsibility of the payment institution, or at any entity to which activities

²⁴⁶ Article 20(2). 247 Article 23(1).

are outsourced; (c) issue recommendations, guidelines and, if applicable, binding administrative provisions; (d) suspend or to withdraw an authorization pursuant to Article 13.

Access to payment systems: Article 35 requires that the rules on access of authorized or registered payment service providers that are legal persons to payment systems are objective, non-discriminatory and proportionate and that they do not inhibit access more than is necessary to safeguard against specific risks such as settlement risk, operational risk and business risk and to protect the financial and operational stability of the payment system.²⁴⁸

Access to accounts maintained with a credit institution: Article 36 specifically requires that Member States ensure that payment institutions have access to credit institutions' payment accounts services on an objective, non-discriminatory and proportionate basis. Such access shall be sufficiently extensive as to allow payment institutions to provide payment services in an unhindered and efficient manner.

4.2.3.4.3 Title III- Transparency of conditions and information requirements for payment services

This Title applies to single payment transactions, framework contracts and payment transactions covered by them. The parties may agree that it shall not apply in whole or in part when the payment service user is not a consumer.

Figure 25: Title III



CHAPTER 1: GENERAL RULES

Article 38: Scope

Article 39: Other provisions in Union law

Article 40: Charges for information

Article 41: Burden of proof on information requirements

Article 42: Derogation from information requirements for low-value payment instrum

electronic money

TRANSPARENCY OF CONDITIONS AND INFORMATION REQUIREMENTS FOR

CHAPTER 2: SINGLE PAYMENT TRANSACTIONS

Article 43: Scope

Article 44: Prior general information

Article 45: Information and conditions

PAYMENT SERVICES Article 46: Information for the payer and payee after the initiation of a payment order

Article 47: Information for payer's account servicing payment service provider in the ϵ

payment initiation service

Article 48: Information for the payer after receipt of the payment order

Article 49: Information for the payee after execution

CHAPTER 3: FRAMEWORK CONTRACTS

Article 50: Scope

Article 51: Prior general information

Article 52: Information and conditions

Article 53: Accessibility of information and conditions of the framework contract

Article 54: Changes in conditions of the framework contract

Article 55: Termination

Article 56: Information before execution of individual payment transactions

Article 57: Information for the payer on individual payment transactions

Article 58: Information for the payee on individual payment transactions

CHAPTER 4: COMMON PROVISIONS

Article 59: Currency and currency conversion

Article 60: Information on additional charges or reductions

This Title is particularly relevant within the Nigerian context, and the subject matter is currently not covered anywhere. Several of the salient Articles are presented below and serve as an example of the type of transparency and consumer protection provisions which need to be included in law and or regulation going forward.

Charges for information: The payment service provider may not charge the payment service user for providing information under this Title.²⁴⁹

Burden of proof on information requirements: The burden of proof lies with the payment service provider to prove that it has complied with the information requirements set out in this Title.²⁵⁰

Chapter 2: Single payment transactions not covered by a framework contract, including: **Prior information**: As required by Article 44, before the payment service user is bound by a single payment service contract or offer, the payment service provider makes available to the payment service user, in an easily accessible manner, the information and conditions specified in Article 45 with regard to its own services. At the payment service user's request, the payment service provider must provide the information and conditions on paper or on another durable medium. The information and conditions must be given in easily understandable words and in a clear and comprehensible form, in an official language

of the Member State where the payment service is offered or in any other language agreed between the parties.

Information and conditions: The payment service provider must provide to the payment service user the following information and conditions ²⁵¹: (a) a specification of the information or unique identifier to be provided by the payment service user in order for a payment order to be properly initiated or executed; (b) the maximum execution time for the payment service to be provided; (c) all charges payable by the payment service user to the payment service provider and, where applicable, a breakdown of those charges; (d) where applicable, the actual or reference exchange rate to be applied to the payment transaction. In addition, payment initiation service providers must, prior to initiation, provide the payer with, or make available to the payer, the following clear and comprehensive information: (a) the name of the payment initiation service provider, the geographical address of its head office and, where applicable,

²⁴⁹ Article 40(1). 250 Article 41.

²⁵¹ Article 45.

the geographical address of its agent or branch established in the Member State where the payment service is offered, and any other contact details, including electronic mail address, relevant for communication with the payment initiation service provider; and (b) the contact details of the competent authority.

Information for the payer and payee after the initiation of a payment order: where a payment order is initiated through a payment initiation service provider, the payment initiation service provider must, immediately after initiation, provide or make available all of the following data to the payer and, where applicable, the payee: (a) confirmation of the successful initiation of the payment order with the payer's account servicing payment service provider; (b) a reference enabling the payer and the payee to identify the payment transaction and, where appropriate, the payee to identify the payer, and any information transferred with the payment transaction; (c) the amount of the payment transaction; (d) where applicable, the amount of any charges payable to the payment initiation service provider for the transaction, and where applicable a breakdown of the amounts of such charges. 252

Information for the payer after receipt of the payment order: Immediately after receipt of the payment order, the payer's payment service provider must provide the payer with or make available to the payer, in the same way as provided for in Article 44(1), all of the following data with regard to its own services: (a) a reference enabling the payer to identify the payment transaction and, where appropriate, information relating to the payee; (b) the amount of the payment transaction in the currency used in the payment order; (c) the amount of any charges for the payment transaction payable by the payer and, where applicable, a breakdown of the amounts of such charges; (d) where applicable, the exchange rate used in the payment transaction by the payer's payment service provider or a reference thereto, when different from the rate provided in accordance with point (d) of Article 45(1), and the amount of the payment transaction after that currency conversion; (e) the date of receipt of the payment order. ²⁵³

Information for the payee after execution: Immediately after the execution of the payment transaction, the payee's payment service provider must provide the payee with, or make available to, the payee all of the following data with regard to its own services: (a) a reference enabling the payee to identify the payment transaction and, where appropriate, the payer and any information transferred with the payment transaction; (b) the amount of the payment transaction in the currency in which the funds are at the payee's disposal; (c) the amount of any charges for the payment transaction payable by the payee and, where applicable, a breakdown of the amounts of such charges; (d) where applicable, the exchange rate used in the payment transaction by the payee's payment service provider, and the amount of the payment transaction before that currency conversion; (e) the credit value date.

Chapter 3: Payment transactions covered by framework contracts:

Prior general information: Before the payment service user is bound by any framework contract or offer, the payment service provider provide the payment service user on paper or on another durable medium with the information and conditions specified in Article 52.²⁵⁴

Information and conditions: the following information and conditions must be provided to the payment service user: information on the payment service provider; information and conditions of the payment service; information and conditions on charges, interest and exchange rates; information on

Article 48.

²⁵² Article 46.

Article 48.
Article 51.

communication; information on safeguards and corrective measures; information and conditions on changes to, and termination of, the framework contract and information on redress.²⁵⁵

Accessibility of information and conditions of the framework contract: Article 53 states that during the contractual relationship the payment service user has a right to receive, on request, the contractual terms of the framework contract as well as the information and conditions specified in Article 52 on paper or on another durable medium.

Changes in conditions of the framework contract: Any changes in the framework contract or in the information and conditions specified in Article 52 must be proposed by the payment service provider in the same way as provided for in Article 51(1) and no later than 2 months before their proposed date of application. The payment service user can either accept or reject the changes before the date of their proposed date of entry into force.²⁵⁶

Termination: Article 54 sets out the conditions for cancellation of the contract by the payment service user or the payment service provider.

Information for the payer and payee on individual payment transactions: Articles 57 and 58 set out comprehensively the information which must be provided to the payer and payee after the execution of an individual payment transaction.

4.2.3.4.4 Title IV- Rights and obligations in relation to the provision and use of payment services

Title IV sets out the rights and obligations of the parties in relation to the provision of payment services. The scope and content of Title IV is depicted in Figure 26 below. This title consists of six chapters covering common provisions (chapter 1); authorization of payment instructions (chapter 2); execution of payment transactions (chapter 3) which has three sections (section 1 – payment orders and amounts transferred, section 2 – execution time and value date, section 3 – liability); data protection (chapter 4); operational and security risk and authentication; and ADR procedures for the settlement of disputes (chapter 6).

²⁵⁵ Article 52. 256 Article 54.

Figure 26: Title IV



RIGHTS AND
OBLIGATIONS
IN RELATION TO
THE PROVISION
AND USE OF
PAYMENT SERVICES

CHAPTER I: COMMON PROVISIONS

CHAPTER 2: AUTHORIZATION OF PAYMENT INSTRUCTIONS

Article 64: Consent and withdrawal of consent

Article 65: Confirmation on the availability of funds

Article 66: Rules on access to payment account in the case of payment initiation services

Article 67: Rules on access to and use of payment account information in the case of account information services

Article 68: Limits of the use of the payment instrument and of the access to payment account payment service providers

Article 69: Obligations of the payment service user in relation to payment instruments and personalised security credentials

Article 70: Obligations of the payment service provider in relation to payment instruments Article 71: Notification and rectification of unauthorised or incorrectly executed payment

transactions

Article 72: Evidence on authentication and execution of payment transactions

Article 73: Payment service provider's liability for unauthorised payment transactions

Article 74: Payer's liability for unauthorised payment transactions

Article 75: Payment transactions where the transaction amount is not known in advance

Article 76: Refunds for payment transactions initiated by or through a payee

Article 77: Requests for refunds for payment transactions initiated by or through a payee

CHAPTER 3: EXECUTION OF PAYMENT TRANSACTIONS SECTION 1: PAYMENT ORDERS AND AMOUNTS TRANSFERRED

Article 78: Receipt of payment orders

Article 79: Refusal of payment orders

Article 80: Irrevocability of a payment order

Article 81: Amounts transferred and amounts received

SECTION 2: EXECUTION TIME AND VALUE DATE

Article 82: Scope

Article 83: Payment transactions to a payment account

Article 84: Absence of payee's payment account with the payment service provider

Article 85: Cash placed on a payment account

Article 86: National payment transactions

Article 87: Value date and availability of funds

SECTION 3: LIABILITY

Article 88: Incorrect unique identifiers

Article 89: Payment service providers' liability for non-execution, defective or late execution payment transactions

Article 90: Liability in the case of payment initiation services for non-execution, defective or I execution of payment transactions

Article 91:Additional financial compensation

Article 92: Right of recourse

CHAPTER 4: DATA PROTECTION

Article 94: Data protection

CHAPTER 5: OPERATIONAL AND SECURITY RISK AND AUTHENTICATION

Article 95: Management of operational and security risks

Article 96: Incident reporting

Article 97: Authentication

Article 98: Regulatory technical standards on authentication and communication

CHAPTER 6:ADR PROCEDURES FOR THE SETTLEMENT OF DISPUTES SECTION 1: COMPLAINT PROCEDURES

Article 99: Complaints

Article 100: Competent authorities

SECTION 2:ADR PROCEDURES AND PENALTIES

Article 101: Dispute resolution Article 102: ADR procedures

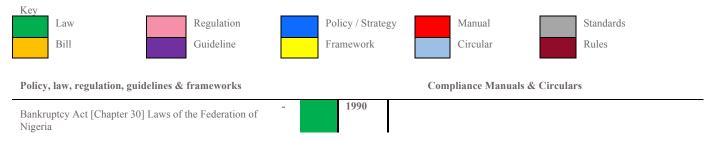
Article 103: Penalties

4.2.4 THE LEGAL AND REGULATORY FRAMEWORK FOR PAYMENTS IN NIGERIA

It is quite clear that the CBN is committed to ensuring that a sound regulatory framework is in place for the National Payment System, however, concerns are raised with respect to face that most provisions are found in guidelines, regulatory frameworks and circulars and have not been consolidated into overarching Acts and Regulations. Nigeria, like other countries has identified the intrinsic opportunities of DFS and has taken decisive actions such as establishing guidelines for mobile money, agent banking and superagent operations, Direct Debit Scheme and Bill Payments, tiered know your customer (KYC) levels, among others. ²⁵⁷

Perhaps the most startling finding of this market assessment is that Nigeria has yet to enact the *Payment System Management Bill (PSMB) 2017* (see Box 14 below). In the absence of an enforceable NPS Act, the Central Bank of Nigeria has made use the powers conferred on the Bank by Section 47(3) of the Central Bank of Nigeria Act 2007 (as amended) to prescribe rules and regulations for the efficient operation of all clearing and settlement systems to issue several circulars, guidelines regulatory frameworks and policy documents (see Figure 27 below). The CBN have also issued numerous circulars to banks, MMOs and participants in the National Payment System (NPS). There are also two other important bills pending. These are: the *Electronic Transaction Bill* and the Competition and Consumer Protection Bill.

Figure 27: Legal and regulatory framework for payments/DFS (1990 - 2018)



Lagos Business School (2017) Digital Financial Services in Nigeria: State of the Market Report 2017.

Companies and Allied Matters Act	-		
Banks and Other Financial Institutions Decree	-	1991	
Consumer Protection Council Act	-	1992	
Guidelines on Electronic Banking	-		
Nigerian Communications Act (NCA)	-	2003	- CBN Manual on Know-Your-Customer (KYC) for Financial Institutions
New Settlement Framework (for Check Clearing)	-	2004	
Banks and Other Financial Institutions Act	-		
Coins Act			
Bills of Exchange Act	-		
Dishonored Checks Act	-	_	
Foreign Exchange (Monitoring and Miscellaneous Provisions) Act			
Nigerian Postal Service Act			
The Economic and Financial Crimes Commission ("EFCC") Act	-		
CBN Biometric Verification Number Policy, 2014	-		
Consumer Protection (Products and Services Monitoring and Registration) Regulations	-	2005	
Check Standard & Check Printers Accreditation	-	2006	
Central Bank of Nigeria Act, 2007	-	2007	
National Identity Management Commission Act	-		
The Consumer Code of Practice ²⁵⁸	-		
NCC Code of Practice Regulations 2007	-		
Draft Mobile Payment Services Regulatory Framework	-	2009	- Revised AML/CFT Compliance Manual for Banks and other Financial Institutions in Nigeria
National Payment System Management Bill drafted	-		- Deployment of Automated Teller Machines
Direct Debit Rules issued	-		- Compliance with Settlement Cycle for Electronic Payments
Guideline on Transaction Switching Services and the Operational Rules of the Nigeria Central Switch	-		- Deployment of Deposit Money Banks' Offsite ATMs and Establishment of ATM Consortium
Guideline on Stored Value / Prepaid Card Issuance and Operations	•		- Circular - Maximum Limit on Check Payments
Guidelines for Handling Complaints on Electronic Card Transactions	-		
Check cap of N1O million	-	2010	- Need to Combat Card Fraud
Guidelines on ATM Operations	-		- Interoperability and Interconnectivity of the Payments System Infrastructure in Nigeria
Nigerian Uniform Bank Account Number (NUBAN) Standards	-		- Circular to All Approved Mobile Payments Scheme Operators
Exposure Draft on Mobile Payment Services Regulatory Framework	-		
SIM Card Registration Regulation 2010	<u>-</u>		

²⁵⁸ Issued by the NCC.

Limitation on cash withdrawal/payments	-	2011	
Terrorism (Prevention) Act	-		
Freedom of Information Act	-		
Money Laundering (Prohibition) Act	-		
	-		
Evidence Act	-	2012	National Financial Inclusion Strategy (NFIS)
Guidelines for the Provision of Electronic Retail Transfers and E-Money			
Cashless Policy Pilot in Lagos	-		
Money Laundering (Prohibition) (Amendment) Act	-		
Guidelines for Check Truncation in Nigeria			
Revised Guideline on Stored Value / Prepaid Card Issuance and Operations	-		
Nigerian National Information and Communication Technology Policy 2012	-		
CBN National Financial Inclusion Strategy	-		
Setting of N150,000 limit on encashment of 3rd party checks	-	2013	- To all Banks and Other Financial Institutions on Three Tiered KYC
Issuance of Clearing House sanctions to instill discipline among the participating members	-		- Additional Know Your Customer (KYC) Requirement in respect of Designated Non-Financial Businesses and Professions (DNFBPs)
Guidelines for the Regulation of Agent Banking in Nigeria	-		- Three Tiered KYC Requirements Implementation Strategy
Tiered KYC introduced	-		- Extension of Cash-Less Policy in Five States and the FCT
E-Payment Dispute Arbitration Framework	-		- To all Nigerian Deposit Money Banks, Microfinance Banks & Primary Mortgage Banks on the Nationwide Encashment of 3rd Party Checks Above N150,000.00 over the Counter of Banks and Stoppage of Charges on 3rd Party Checks Below N150,000.00
CBN commenced its cash-less policy on 1 July 2013 in the Federal Capital Territory (Abuja), Abia, Anambra, Kano, Ogun and Rivers states	-		
Exposure Draft of the Guidelines on Electronic payments of Salaries, Pensions, Suppliers and Taxes in Nigeria	-		
Amendment of Anti-Money Laundering/Combating The Financing of Terrorism (AML/CFT) Regulation, 2009 (As Amended), Terrorism (Prevention) Act (TPA), 2011 (As Amended			
Terrorism (Prevention) Amendment Act, 2013	-		
Central Bank of Nigeria (Anti-money Laundering and Combating the Financing of Terrorism in Banks and Other Financial Institutions in Nigeria) Regulations			
Issuance of revised Guidelines for Card Issuance and Usage	-	2014	- Timeline for PCIDSS Certification by all Deposit Money Banks, Switches and Processors
Abolished fees on cash deposit above the Cash-Less Policy threshold	-		- Review of Operations of the NIBSS Instant Payment (NIP) System and Other E-payment Options with Similar Features
Guidelines on International Money Transfer Services in Nigeria	-		- Electronic Payments Incentives Scheme and Awareness Campaign
Framework for the Regulation and Supervision of Domestic Systemically Important Banks (SIBs) in Nigeria	-		- Anti-Money Laundering/Combatting the Financing of Terrorism (AML/CFT) Regulations of Host Countries and the Compliance Manual of Foreign Subsidiaries

Bank Verification Numbering (BVN) Policy				Letter to all Banks and Other Financial Institutions of Filling of Suspicious Transactions to Nigerian Financial Intelligence Unit (NFIU)
NCC License Framework for Mobile Payment System, 2014	-		-	DMBs and Merchant Banks on the Implementation of SWIFT Sanction Screening Service
NCC License Framework for Value Added Services, 2014	-		-	Need to Install Anti-Skimming Devices on all ATMs
2017			-	Electronic Payments Incentives Scheme and Awaren Campaign
			-	Merchant service charge (MSC) reduced from 1.25% N2,000 to 0.75% or maximum of N1,200 per transaction.
			-	Non-Refund of Monies to Customers Shortchanged by ATMs Non -Dispense or Partial Dispense Errors
			-	Introduction of Fee on Remote-On-Us ATM Withdra Transactions
			-	Phase III Nationwide Rollout of Cashless Policy to the remaining States
			-	Review of the NIP System & Other Electronic Payme Options with Similar Features
			-	Timeline for PCIDSS Certification by all DMBs, Switches & Processors
			-	Clarification Circular on Bank Verification Number (BVN) Enrolment
			-	the Acceleration of Bank Verification Number (BVN Project
			-	Go-Live of Bank Verification Number (BVN)
			-	To DMBs & Merchant Banks on the Implementation SWIFT Sanction Screening Services
National Payment System Bill	-	2015	-	Implementation of two Factor Authentication for Inte Banking Processes
Micro-Finance Bill	-		-	Nigerian Issued Card Present Fraud in Non-EMV Environments
Central Bank of Nigeria Act 2007 (Amendment) Bill	-		-	RE-Process for Linking the BVN with Customers' Accounts on the Core Banking Application by Banks
Cyber-Crime [Prohibition, Prevention] Act			-	Establishment of Industry Fraud Desks
Guideline on Mobile Money Services in Nigeria			-	Extension of the Deadline for the Bank Verification Number (BVN) $ \label{eq:BVN} % \begin{center} cent$
Regulatory Framework for Mobile Money Services in Nigeria	-		-	Denominated Card Transactions Consummated Over
Regulatory Framework for Licensing Super Agents in Nigeria	-		-	Nationwide Rollout of the Cashless Policy to the Remaining 30 States
			-	Sanctions on Erring Banks/e-Payment Service Provice for Infractions of Payment System Rules and Regular
			-	Framework for the Enrolment of Nigerian Bank Customers in the Diaspora for the Bank Verification Number (BVN) Issuance
			-	Re: Guidelines on the Cluster Structure for Anti -Mo Laundering/Combating the Financing of Terrorism (AML/CFT) Compliance
Revised Guideline on Transactions Switching in Nigeria	-	2016	-	Extension of BVN for Nigerian Banks' Customers in Diaspora (Revised)

vised Guideline on Operations of Electronic Payment	-		- Clarification on Accounts with BVN Related Issues
nannels in Nigeria released 3N reviews upwards the transaction limits on Tier 1	-		- Removal of Fixed Interest Rates on Credit Cards
d 2 accounts. posure Draft of the Guidelines on Instant (Inter-bank)	-		- Further Extension of BVN for Nigerian Banks' Custom in Diaspora
posure Draft on the Guide to Charges for Banks and her Financial Institutions in Nigeria	-		- Introduction of Fees on Remote-On-Us ATM Withdraw Transactions
posure Draft of the Proposed Framework on Watchst for the Nigerian Banking System	-		- Prevention Of Exposure To Banks Through Payment Solutions
eposit Insurance Guidelines	-		- Implementation of Interchange Fees
onsumer Protection Framework	-		
omputer and Cybercrime Bill 2016	-		
deral Competition (Establishment) Act	-	2017	- To Banks and Other Financial Institutions on Virtual Currency Operations in Nigeria
ata Protection Act	-		- National Implementation of The Cash-Less Policy
nkruptcy and Insolvency Act CAP B2 LFN 2011 epeal & Re-enactment) Act	-		- Implementation of Interchange Fee
cond reading of the Payment System Management Bill	-		- Statements of Payment Finality for the Nigerian Paymo Schemes
BN release exposure guidelines on Instant Inter-Bank ectronic Funds Transfer Services in Nigeria	-		- Review of Daily MM Wallet Transaction & BVN Requirement for Mobile Money Wallet Holders
BN release Guidelines for the Direct Debit Scheme	-		To all Nigeria Deposit Money Banks (DMBs) on the Introduction of Biometric Authentication of its Custom
posure Draft Regulatory Framework for Bank rification Number (BVN) Operations and Watch List the Nigerian Financial System	-		
BN release Guidelines on Bills Payments	-		
BN) suspends nationwide implementation of the cashs policy indefinitely (April 2017)	-		
BN issues new Guide to Bank Charges by Banks and ner Financial Institutions	-		
CC and CBN sign MOU to allow MNOs to incorporate Vs to offer mobile money services ²⁵⁹	-		
T Roadmap (2017 – 2020)	-		
gulation for Bill Payments in Nigeria, 2018	-	2018	
gulatory Framework for the Use of Unstructured pplementary Service Data (USSD) for Financial rvices in Nigeria	-		

4.2.5 GAP ANALYSIS: NIGERIA'S ACTS AND BILLS

As noted in section 3.2.1 above, Principle 1 of the Principles for Financial Market Infrastructures (PFMI) requires that Financial Market Infrastructures (FMIs) should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of their activities in all relevant jurisdictions.

 $^{{\}color{red}^{259}}~\textbf{See}~\underline{\text{http://punchng.com/ncc-cbn-sign-agreement-on-mobile-money-services/}}$

For the purposes of this study, laws and regulations are divided into "core" and "general application" laws and regulations. Core laws and regulations refer to those instruments that have a direct bearing upon the activities of FMI's. This group of core laws and regulations consists of: 1) the Central Bank Act, 2) the Bank Act, 3) the Financial Institutions Act, 4) the National Payment System Act, 5) Bills of Exchange Act, 6) Electronic Money Act, 7) Payment Services Act, 8) Securities Act, 9) Stock Exchange Act, 10) CSD Act, 11) Exchange Control Act, 12) Electronic Communications and Transmissions Act, 13) Anti-Money Laundering (AML) Act, 14) Countering the Financing of Terrorism (CFT) Act and 15) the Financial Intelligence Center (FIC) Act. In several countries, the AML, CFT and FIC Acts are amalgamated into one general AML Act or FIC Act.

Table 33: The legal framework for payments in Nigeria (Core Acts and Regulations)

	Acts	Nigerian Acts
	1. Central Bank Act	Central Bank of Nigeria Act, 2007
	2. Banks Act	Banks and Other Financial Institution Act, 2007 (As Amended)
	3. Financial Institutions Act	As Above
•	4. National Payment System Act	Payment System Management Bill (PSMB) 2017
	5. Bills of Exchange Act	Bills of Exchange Act, 2004
X	6. Electronic Money Act	-
X	7. Payment Services Act	-
	8. Securities Act	Investment and Securities Act (ISA), 2007
	9. Stock Exchange Act	As above
X	10. CSD Act	-
0	11. Exchange Control Act	Foreign Exchange (Monitoring & Miscellaneous Provisions) Act, 1995
•	12. Electronic Communications and Transmissions Act	Electronic Transaction Bill NITDA Guidelines on Data Protection, 2013
	13. Anti-Money Laundering Act	Money Laundering (Prohibition) Act, 2011

Section 2(d) of the Central Bank of Nigeria Act, 2007²⁶⁰ 2(d) states that one of the principle objects of the Bank shall be to promote a sound financial system in Nigeria. Specifically, with respect to the National Payment System, section 47(2) mandates the Bank to continue to promote and facilitate the development of efficient and effective systems for the settlement of transactions (including the development of electronic payment systems). In order to execute upon this mandate, section 47(3) gives the CBN the power to prescribe rules and regulations for the efficient operation of all clearing and settlement systems.

As noted above, in the absence of a National Payment System Act, this section has been extensively used by the CBN to provide the mandate to regulate the NPS through the issuing of guidelines, circulars, standards, regulatory frameworks and policy documents. However, the primary gap highlighted with respect to the legal and regulatory framework in Nigeria is that the Payment System Management Bill (PSMB) 2017 has yet to be promulgated. Nigeria is therefore exposed in terms of there being no legally enforceable law in place governing vital issues such as insulation of collateral security from the effects of insolvency, settlement finality and irrevocability, Central Bank oversight and supervision of the National Payment System. Some of these provisions are contained in settlement system and Automated Clearing House (ACH) Rules, Terms and Conditions and Policies and Procedures, Guidelines and Frameworks.

 $^{^{260}}$ Act No. 7 of 2007

However, it is preferable that these provisions are set down in law and not in bilateral agreements or in legally unenforceable documents.

Box 14: In search of appropriate legislation for Nigeria's Payment System

What is the appropriate legislation for Nigeria's Payment System, which would facilitate the achievement of the Payment System Vision 2020? Presently, the nation's lawmakers are battling with two proposed legislations namely: the *National Payment System Bill (NPSB) 2017* and the *Payment System Management Bill (PSMB) 2017*.

Payment System Vision (PSV) 2020: Launched in 2007, the goal of PSV 2020 is stated as follows: "By the year 2020, our children will laugh at us when we try and pay by cash". This is to be achieved by creating a payment system infrastructure that is locally utilized and internationally recognized. Consequently, the PSV 2020 seeks: To facilitate economic activities by providing safe and efficient mechanisms for making and receiving payments, with minimum risks to the Central Bank, payment service providers and end users, extending the availability and usage to all sectors and geographies, banked and unbanked, and conforming to internationally accepted regulatory, technical and operational standards. The implementation of the PSV 2020 has led to several developments and improvements in the manner of payment for goods and services in Nigeria, mostly the increasing adoption of electronic channels, like PoS, mobile money, internet, and instant transfer, for payments of goods and services, as well as the emergence of many non-bank organizations offering various payment related services, giving rise to a bourgeoning fintech (financial technology) industry in Nigeria. However, these developments have led to the emergence of regulatory challenges and risks to consumers and players, which are not captured in the various existing laws governing the banking system. Hence the need for drafting and enacting of a law that holistically provide legal framework for the operation and administration of the nation's payment system.

PSMB or NPSB

The two proposed legislations though seek to address the challenge of administration and operation of the National Payment System, however differ in two critical areas. Governance: This has to do with who governs the country's payment system. The PSMB recommends that the CBN should be the sole authority for management, regulation and oversight of the Payment System with Payment Scheme Boards and a Strategy Committee (with membership drawn from other regulatory agencies and relevant stakeholders) providing support services to the apex bank. The Bill was so structured because the key infrastructure, systems and participants in the Payment Systems are statutorily under the purview of the CBN. Therefore, the arrangement ensures that there is no gap between the management of Payment Systems and the monetary policy transmission mechanism. However, the NPSB recommends the creation of an association of payment system participants as regulators of the members. In other words, most regulatory and oversight of the Payment System under the NPSB is through the instrumentality of self-regulation by system participants through their association or associations. NPSB also placed a role on the Minister of Finance thereby introducing another governance structure.

Authorization: Another point of difference has to do with who should grant authority to payment system operators. The PSMB recommends that the CBN should have the power to provide for authorization to operate system, application for authorization, status inquiries on application by the Bank, conditions for authorization, refusal, revocation of authorization and conditions for change in the payment system. These are extensive provisions for entry and exit of the Payment System that ensure that only the most technically viable and sound entities are allowed to participate in the Payment System. However, the CBN is given no similar power under the NPSB. Rather, there are only provisions for an association (named "Payment System Management Body"), to be recognized by the CBN, saddled with the responsibility of organizing, managing and regulating the participation of its members in the payment system. This means that, the CBN is not in the position to determine who should or should not participate in the payment system.

Global best practices

Global best practices necessitate the enactment of a National Payment System law that provides legal framework for the administration and operations of the payment system. Thus many countries, both developed and developing have enacted National Payment System Act. Also, in terms of which body should have power to govern and authorize in the payment system, the global trend supports the provisions of the PSMB, which makes the CBN the governing body for the nation's payment system and also gave it the power to authorize payment system operators. In Tanzania for example, the payment system is regulated via The National Payment System Act, 2015. Under the Act, the Bank of Tanzania (BoT), which is the apex bank, regulates national payment systems in Tanzania. It is vested with the power to grant or refuse the prescribed licenses, approvals, and basically has the mandate to regulate, supervise, investigate and oversee operations of payment systems in Tanzania. The Act allows companies, other than banks and financial institutions, to operate payment systems in Tanzania by obtaining a license from the Bank of Tanzania (the BoT). The above scenario is the same in Kenya via the National Payment System Act, 2011; in Zambia via National Payment Systems Act 2007 and in Ghana via the National Payment Systems Act, 2003 (Act 662), Furthermore, the Committee on Payment and Market Infrastructure (CPMI), which stipulates international best practices on payment systems, places the responsibility of oversight of payment systems on central banks. The Core Principles of Systemically Important Payment Systems (CPSS) principles in placing the responsibility of oversight of the Payment System on central banks require them to ensure compliance with the core principles by payment and settlement systems.

The CPSS also require the central bank to cooperate with other central banks and any other foreign or domestic entity for promotion of payment systems' safety and efficiency. Furthermore, most payment systems settle in central bank for safety, availability efficiency, neutrality and finality. In addition to the above, the PSMB is the product of collaboration between payment service providers and payment system related agencies as constituted by the Legal Special Interest Group of PSV2020, which was charged with the responsibility of coming up with the Bill.

Payment service providers

The membership of the Group is drawn from the CBN, Deposit Money Banks (DMBs), payment system service providers, National Identity Management Commission (NIMC) and the Federal Ministry of Justice. In preparing the PMSB, the Group studied legislations on payment systems of some countries including India, Namibia, Ghana, South Africa, Croatia, Australia, the European Union and Malaysia in carrying out its task. The Group originally came up with a Bill titled "Payment System Bill, 2016". The Bill was approved by the Federal Executive Council for presentation to the National Assembly as an executive Bill. The PSB 2016 was subsequently harmonized with a similar bill titled, "Payment System Management Bill, 2016" sponsored by Senator John Owan Enoh, Chairman, Senate Committee on Finance. The harmonization produced the

Source: Babajide Komolafe Vanguard News Nigeria (2017)

The so-called "new generation" laws and regulations covering electronic money and payment services are also lacking in Nigeria. While some provisions are found in Guidelines and Regulatory Frameworks, the actual legal enforceability of these instruments is questionable. A general observation too is that while all of the Guidelines and Frameworks contain general principles, they are nowhere close to the detail and specific provisions contained in the e-Money Directive and PSD2. As set out below, the Nigerian *Mobile Money Regulatory Framework, 2015* falls short in several vital respects including creating a level playing field, defining electronic money, safeguarding principles, own funds, dispute resolution etc.

Another area of concern is the Nigeria has not promulgated a separate Electronic Communications and Transmissions Act, however, the Electronic Transactions Bill is pending. While some provisions on the *prima facie* nature of electronic documents have been included in laws of general application, vital provision on for example, evidentiary proof of authentication of electronic payments using digital signatures or other instruments for electronic payment authorization, the establishment and maintenance of a register of cryptography providers and the accreditation of authentication products and services in support of advanced electronic signatures by a recognized Accreditation Authority are not covered by law and regulation.

The laws of general applicability relevant to the analysis in the report are: 1) the Company Act; 2) Competition Act; 3) Insolvency Act; 4) Access to Information Act; 5) the Consumer Protection Act; and 6) Arbitration Act (Domestic). Consumer protection in Nigeria is a particular cause for concern. The Competition and Consumer Protection Bill has yet to be passed and the CBN's Consumer Protection Framework, 2016 while covering several international best practice principles provides very little substance in terms of substantive provisions. The use of the works, the "CBN will issue regulations, frameworks and guidelines" appears to be without substance as these have, to date, not been issued, leaving an effective consumer protection void.

Acts

1. Company Act
Companies and Allied Matters Act, 2009 (As Amended)

Competition and Consumer Protection Bill

X 3. Insolvency Act

4. Access to Information Act

Competition and Consumer Protection Bill

CBN Consumer Protection Framework, 2016

6. Arbitration Act (Domestic)

Table 34: The legal and regulatory framework for payments in Nigeria (General Application)

4.2.6 THE PAYMENT SYSTEM MANAGEMENT BILL

A full assessment of the provisions of the Payment System Management Bill of 2017 is beyond the scope of this report. It is encouraging to note however that the Bill is forward thinking and contains provisions which are in line with international best practice. Importantly, the Bill contains provisions on authorization, settlement and clearing provisions (including provisions on settlement and insolvency), specific powers of the bank including powers to supervise, issue directions and regulations and provisions on dispute resolution.

Table 35: Scope and content of the PSMB, 2017

Article	Scope					
PART I – OBJEC	TIVE					
Article 1	Objectives					
	PART II - AUTHORIZATION OF PAYMENT SYSTEMS					
Article 2	Authorization to operate payment systems					
Article 3	Application for authorization					
Article 4	Inquiry by the bank					
Article 5	Issuance of authorization					
Article 6	Refusal of authorization					
Article 7	Revocation of authorization					
Article 8	Change in the payment system					
PART III - PAYMENTS AND SETTLEMENTS						
Article 9	Payment provisions					
Article 10	Third part payments					
Article 11	Clearing provisions					
Article 12	Settlement provisions					
Article 13	Settlement and insolvency					
	RS OF THE BANK					
Article 14	Power to supervise					
Article 15	Power to call for returns, documents and other information					
Article 16	Power to issue directions					
Article 17	Power to make regulations					
Article 18	Power to establish committee and payment scheme hoards					
Article 19	General powers of the bank					
Article 20	Delegation of the power of the bank					
Article 21	Cooperation with other authorities					
PART V - INDEMNITY AND RESOLUTION OF DISPUTES, ETC						
Artiala 22	Protection against adverse claims					
Article 22	Indemnity					
Article 23	Resolution of disputes					
Article 24	Retention of records					
Article 25 Article 26	Requirement for digital signature					
	PART VI - OFFENCES AND PENALTIES					
	Offences and penalties					
Article 27	Offences by corporate bodies					
Article 28	Administrative penalties					
Article 29						

PART VII - MISCELLANEOUS	
Article 30	Civil proceedings
Article 31	Prosecuting authority
Article 32	Jurisdiction
Article 33	Restriction on execution against property of bank
Article 34	Interpretation

4.2.7 REGULATIONS AND REGULATORY FRAMEWORKS

As the Payment System Management Bill has yet to be passed, the CBN makes extensive use of the powers conferred on the CBN under Sections 2(d), 33 (1) (b) and 47(2) of the CBN Act 2007 to promote a sound financial system in Nigeria, issue guidelines and facilitate the development of an efficient and effective payments system in Nigeria to issue regulations. To date, the CBN has issued the following regulations and regulatory frameworks:

- Regulation for Bill Payments in Nigeria, 2018;
- Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) for Financial Services in Nigeria, 2018;
- Exposure Draft Regulatory Framework for Bank Verification Number (BVN) Operations and Watch List for the Nigerian Financial, 2017;
- Consumer Protection Framework (CPF), 2016;
- Regulatory Framework for Mobile Money Services in Nigeria, 2015;
- Regulatory Framework for Licensing Super Agents in Nigeria, 2015;
- Framework for the Regulation and Supervision of Domestic Systemically Important Banks (SIBs) in Nigeria, 2014;
- E-Payment Dispute Arbitration Framework, 2013;
- New Settlement Framework (for Check Clearing), 2004

4.2.7.1 Regulation for Bill Payments in Nigeria, 2018

This regulation covers bill payments on various payment channels and any payment platform that seeks to integrate the payment side of commercial activity and merchant aggregators in Nigeria and only contains eight provisions (regulations). The payment methods include checks, cards, direct debit, instant payments, and Automated Clearing House (EFT payments). Regulation 4 lists five stakeholders in a bill payment scenario as 1) payer; biller; and payer; bank; biller; bank; and finally, 5) Payments Service Provider (PSP).

Eligibility criteria: in terms of regulation 5, any person or entity desirous of operating a bill payment platform must apply to the CBN for a license or be integrated to a duly licensed PSP. ²⁶⁷

The individual or corporate entity making a bill payment

²⁶¹ Regulation 3 – Scope.

A registered entity/merchant that receives funds from the payer as consideration for the provision of service or product.

 $^{^{264}}$ The bank where the payer maintains the account that is debited to make the bill payment.

The bank where the biller maintains the account designated to receive proceeds of payment made by the payer.

A person licensed by the Central Bank of Nigeria to provide services involving direct interactions with the payment, settlement and clearing systems and payment system arrangements, as the Bank may authorize from time to time and may include a bank, Mobile Money Operators or Other Financial Institution that is connected directly to a Biller without any service intermediary.

MTN have skirted around this requirement by classifying the bill payment functionality provided to Lumos as a VAS.

Clearing and settlement: all inter-bank transactions initiated and authorized on the bill payment platform must be cleared via the Nigeria Clearing System and settled via Real Time Gross Settlement System (RTGS).²⁶⁸

Rules: each component payment method implemented on the platform must be in accordance with the rules issued by the CBN to guide the conduct of market activities for relevant payment channels.²⁶⁹

Billers: billers are required to be a customer of a bank/PSP that will receive the proceeds of bill payments from Payers. 270 The bank/PSP is required to confirm the legal capacity of the Biller before on-boarding the biller²⁷¹ and after approval of the biller's application, the biller's bank / PSP must register the biller on the platform capturing several minimum details.²⁷²

Payer's bank: the payer's bank must be a member of the clearing system or integrated with a Payment Service Provider that accepts direct debits for processing.²⁷³ Additionally, the payer's bank must comply with the authentication protocol as prescribed by the Electronic Payments Guidelines, where the mandate is in electronic form. 274

Biller's bank: the biller's bank must be a member of the clearing system or integrated with Payment Service Providers that accept Direct Debit for processing ²⁷⁵ and hold an account for the Biller to receive proceeds of payments.²⁷⁶ It is the responsibility of the Biller's bank to give information, advice and guidance on all aspects of the Scheme to the biller, where applicable.²⁷

Operational procedures: as a condition on on-boarding, a service level agreement must be executed between the platform provider and the Biller. ²⁷⁸ The SLA must provide the terms for engagement, roles and responsibilities of the parties, minimum service delivery commitments, obligations of the parties and penalties, as applicable.²⁷⁹

Settlement finality: It is important to note that regulation 6.1 categorically states that payments are final and irrevocable and must be consistent with the provision of the *circular on the Statement of Payments* Finality.

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Regulation 5.1.3.
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Regulation 5.1.4.

Regulation 5.2.1.

Regulation 5.2.3 requires the following to be captured. a. Corporate entity – Bank Account Number; Registered name; RC Number/ Business Registration Number as assigned by the Corporate Affairs Commission; address; Official Contact email address; Contact Telephone Number; Service/Product Codes. b. Individual merchants – BVN; Verified operating address; Contact Telephone Number; Bank Account Number.

²⁷³ Regulation 5.3.1.

Regulation 5.3.2.

Regulation 5.4.1.

Regulation 5.4.2.

Regulation 5.4.3.

Regulation 5.5.1.

Regulation 5.5.2. As per regulation 5.5.4, the minimum commitments to service availability must be defined and incorporated in the Dispute Resolution System (DRS) and SLA, and properly communicated to the users of the service.

Dispute Resolution System (DRS): All requests for refunds/recalls must be via a dispute resolution system or other supplementary rules that guide the operations of the relevant payment method²⁸⁰ and service providers are required to make an automated dispute resolution platform available to facilitate seamless resolution of complaints.²⁸¹ Disputes arising from bills payment transactions must be resolved amicably amongst the parties in line with the provisions of *the guidelines on Operations of Electronic Payment Channels in Nigeria*.

Customer support: Regulation 8 requires billers/PSPs to provide helpdesk services to the billers and payers by the biller's bank/PSP as applicable; via advised channels, to aid resolution of service issues. The helpdesk availability should be such that it coincides with service availability, and access should be on multi-channel basis (phone, email, web etc.)

4.2.7.2 Regulatory Framework for the Use of Unstructured Supplementary Service Data (USSD) for Financial Services in Nigeria

This regulatory framework will come into effect on 1 June 2018 and has the objective of establishing the rules and risk mitigation considerations when implementing USSD for financial services offering in Nigeria. Paragraph 4 lists 1) financial institutions; ²⁸² 2) Mobile Money Operators (MMOs); ²⁸³ 3) Mobile Network Operators (MNOs); ²⁸⁴ 4) Value Added Service Providers/ Aggregators (NCC Licensees) ²⁸⁵ and 5) customers ²⁸⁶ as the participants in the USSD ecosystem.

Eligibility for unique short code: Several entities are eligible for unique short codes. These are MMOs which are eligible for the issuance of USSD short codes from the NCC after meeting the necessary requirements of the NCC for the issuance of same²⁸⁷ and for CBN licensed entities, (other than MMO), a letter of no objection/introduction from the CBN is required before being considered for the issuance of the USSD short codes by the NCC, subject to meeting the requirements of the NCC.²⁸⁸

Vulnerability and mitigation: USSD based financial transactions require encryption to protect the integrity of financial information. To this end, paragraph 6 requires Financial Institutions providing use of the USSD channel to put in place a number of risk mitigation measures. These are summarized in Table 36 below.

Table 36: Risk mitigation measures for use of the USSD channel

Ref.	Risk	Measure
6.1	Lack of proper authentication	Put in place, a proper message authentication mechanism to validate that Requests / responses are generated through authenticated users. Such authentication mechanism shall include a minimum combination of any of International Mobile Subscriber Identity (IMSI), Date of SIM Swaps, Date of Mobile Station International Subscriber Directory Number (MSISDN) Recycle, International Mobile Equipment Identity (IMEI), Date of device change, etc.

²⁸⁰ Regulation 6.2.

Regulation 6.3.

²⁸² Banks, Other Financial Institutions and Payment Service Providers, providing products and services using USSD protocol to their customers.

²⁸³ MMOs are Deposit Money Banks or corporate entities, duly licensed by the CBN to provide mobile payment services to the banked and unbanked customers.

MNOs utilize USSD to interact with, and provide services to their customers.

Any person or organization that engages in the provision of value added mobile/fixed Services, including premium rated services.

Initiate financial transactions or sessions through a USSD string provided by their financial Institutions.

²⁸⁷ Paragraph 5.1.

Paragraph 5.2.

6.2	Customers do not receive notifications	Ensure that the customer receives notification on the status of every transaction conducted through the channel.
6.3	Electronic banking channels compromised	Not use the USSD service to relay details of other electronic banking channels (in case of banks), to their customers, to prevent compromise of other electronic banking channels through the USSD channel.
6.4	Process not auditable	Ensure encryption of USSD information within its environment by an auditable process.
6.6	Inadequate encryption	Ensure at least, radio encryption between users' SIM-enabled device and base stations.
6.6	No secure transmission of USSD signals	Ensure secure transmission of USSD signals between network operator & the USSD aggregators, and between the USSD aggregators & the bank.
6.7	Sensitive information logged and not encrypted	Customer information that is logged by the USSD application as part of financial transactions should not include sensitive information such as customer PIN. Data stored by the USSD application at Financial Institutions shall be encrypted and the NCC shall define a minimum security standard for MNOs and aggregators, as may be required.
6.8	No opt in / opt out	Avail the customers the option to opt in/out of the USSD channel for financial transactions.
6.9	No limits	Put a limit of N100, 000.00 per customer, per day for transactions as may be required. However, customers desirous of higher limits shall execute documented indemnities with their banks or MMOs.
6.10	Level of authentication too low	Mandate the use of an effective 2nd factor authentication (2FA) by customers for all transactions above N20, 000. This shall be in addition to the PIN being used as 1 st level authenticator, which applies to all transaction amounts.
6.11	Two factor authentication displayed	Shall not send the 2FA to the customer's registered GSM number or device; and it shall not be generated or displayed on the USSD menu.
6.12	Inability to detect SIM- Swap/Churn status, user location, unusual transactions	Install a Behavioral Monitoring system with capability to detect SIM-Swap/Churn status, user location, unusual transactions at weekends, etc. This shall be achieved by 31st October 2018.

Dispute resolution: Financial Institutions are responsible for setting up dispute resolution mechanism to facilitate resolution of customers' complaints and must treat and resolve any customer related issues within 3 (three) working days. Non-compliance will be subject to penalty, as may be prescribed by the CBN, from time to time. ²⁸⁹

SLA: A SLA must be in place between the Financial Institutions and MNOs/VAS & Aggregators, benchmarked against the *NCC Quality of Service (QoS) regulation* and service availability requirements of electronic payment services of the CBN.²⁹⁰

Penalties for infractions: Paragraph 10 states that the appropriate Regulator (CBN and/or NCC) as applicable will impose appropriate sanctions for any contravention on any participant that fails to comply with the Framework.

4.2.7.3 Exposure Draft Regulatory Framework for Bank Verification Number (BVN) Operations and Watch List for the Nigerian Financial System, 2017

An exposure draft of the Regulatory Framework for Bank Verification Number (BVN) Operations and Watch List for the Nigerian Financial System was released to all deposit money banks, switches, MMOs and PTSPs on 3 July 2017 under Circular BPS/DIR/GEN/CIR/04/005. Comments and inputs were to have been sent to the Director, Banking & Payment System Department (CBN) by 14 July 2017. It appears that this regulatory framework has yet to be approved as an approved framework has not been released by the

 $^{^{289}}$ No penalties have been prescribed as of yet.

²⁹⁰ Paragraph 8.

CBN. It is however important to examine various provisions of the framework as it is likely that it will be approved and published in the near future.

Objectives: As stated in paragraph 1.2, the objectives of the Regulatory Framework for BVN Operations in Nigeria are: (i) to clearly define the roles and responsibilities of stakeholders; (ii) to clearly define the BVN operations in Nigeria; (iii) to outline the process/operations of the watch-list; and (iv) define access, usage and ownership of the BVN data, requirements and conditions.

Standard Operating Guidelines (SOG) and roles and responsibilities: the framework defines the activities of the participants in the provision of the BVN operations in Nigeria and lists these participants as: 1) the CBN²⁹¹; NIBSS²⁹²; Deposit Money Banks (DMBs) and Other Financial Institutions (OFIs)²⁹³; and bank customers ²⁹⁴

Access to BVN Database: Deposit Money Banks (DMBs) and Merchant Banks; Other Financial Institutions (OFIs); National Law Enforcement Agencies; Other regulatory agencies; and Other Agencies not here mentioned, as approved by the CBNs Management may have access to the database.²⁹⁵

Minimum age limit: the minimum age limit for obtaining a BVN will be eighteen (18) years. Banks operating accounts for Undergraduates/Under Minors under the age of 18 may however obtain information/data to issue a BVN to this category of account holders. Such banks must ensure compliance with the legal requirements for obtaining such information/data.

Security and Data Protection: All parties involved in the BVN operations, are required to put in place, secured hardware, software and encryption of messages transmitted through the BVN network. BVN data may not be stored within the shores of Nigeria and shall not be routed across borders without the consent of the CBN. Additionally, users of the BVN database are required to establish adequate security procedures to ensure the safety and security of its information and those of its clients, which must include physical, logical, network and enterprise security. Finally, parties to the BVN operations shall ensure that all information that its employees have obtained in the course of discharging their responsibilities shall be classified as confidential.²⁹⁶

Consumer Protection and Dispute Resolution: In the event of complaints, all customers' complaints must be treated as contained in the Standard Operating Guidelines. The DMBs and NIBSS will have equal responsibility for compliance with the dispute resolution procedure; and where records are falsified by any party, adequate sanctions, as contained in 2.11 shall apply.

Paragraph 1.5 The CBN will (i) approve the Regulatory Framework and Standard Operating Guidelines; (ii) approve eligible users for access to the BVN database; (iii) ensure that the objectives of the BVN initiative is fully achieved; (iv) conduct oversight on the NIBSS, DMBs and OFIs operations of the BVN; and (v) monitor other stakeholders, to ensure compliance.

Paragraph 1.6. The NIBSS will (i) collaborate with other stakeholders to develop/review the Standard Operating Guidelines of the BVN; (ii) initiate review of Guidelines, as the need arises, subject to the approval of the CBN; (iii) ensure seamless operations of the BVN system; (iv) maintain the BVN database; (v) manage access to the database by the approved users; (vi) ensure recourse to the CBN on any request for BVN information by any party; (vii) render quarterly report of customers on the watch-list to the CBN, DMBs and OFIs; and (viii) ensure adequate security of the BVN information.

²⁹³ Paragraph 1.7. DMBs and OFIs will (i) ensure proper capturing of the BVN data and validate same before the linkage with customers' accounts; (ii) ensure all operated accounts are linked with the owner's BVN; and (iii) report all suspicious BVNs to the NIBSS for update of the Central Watch-list database.

Paragraph 1.8. Bank customers are required to abide by the Regulatory Framework and Standard Operating Guidelines on the BVN and the Framework on Watch-List for the Nigerian Financial System.

Paragraph 1.10.

Paragraph 1.13.

4.2.7.4 Consumer Protection Framework (CPF), 2016

In recognition of some of the current deficiencies, CBN introduced a Consumer Protection Framework (CPF) in 2016, in exercise of its powers under the CBN Act and the BOFIA. International principles outlined by the G20 High-level Principles, the World Bank Good Practices and European Union Four Pillars of Consumer Protection are reflected in the framework. The objective of the framework is the effective regulation of consumer protection practices of banks and other financial institutions, within the regulatory jurisdiction of the CBN. Through 9 consumer protection principles, the CPF outlines the role and responsibility of the CBN in ensuring that financial institutions attain the stipulated standards. The framework grants wide-ranging powers to CBN to punish offenders. However, specific mechanisms on how the CBN will exercise these powers to protect consumers, beyond its customary practices and other regulatory objectives are yet to be properly publicized.

Table 57. Structure and content of the Crit, 2010		
Ref.	Subject	Detail
1.1	Objectives	The broad objectives of the framework are set out in paragraph 1.1 and are stated as: (a) to protect consumers' assets; (b) to ensure timely complaints handling and dispute resolution; (c) to ensure financial services operators put in place effective consumer risk management framework; (d) empower consumers to make informed decisions; (e) to promote professionalism and ethics; and (f) to outline the rights and responsibilities of consumers.
1.2	Scope	The Framework shall guide the effective regulation of consumer protection practices of Financial Institutions (FIs) under the regulatory purview of the CBN to ensure that consumers of financial services are adequately protected and treated fairly. ²⁹⁷
2	Consumer Protection Principles	Guided by international best practice: G20 High Level Principles; ²⁹⁸ World Bank Good Practices; ²⁹⁹ Four Pillars of Consumer Protection. ³⁰⁰ Principles for Nigeria; Legal, Regulatory & Supervisory Structures; Responsible Business Conduct; Disclosure & Transparency; Consumer Financial Education; Fair Treatment; Protection of Consumer Assets, Data & Privacy; Complaints Handling & Redress; Competition; and Enforcement.
2.1	Legal, Regulatory and Supervisory Structures	There shall be effective legal, regulatory and supervisory structures to protect consumers of banking and other financial services regulated by the Bank. These structures shall evolve based on emerging market trends.
2.1.1	Legal and Regulatory Framework	Financial consumer protection shall be carried out by the Central Bank of Nigeria (CBN) in accordance with powers granted in Section 2 (d) of the CBN Act and Section 57 of BOFIA. The CBN may sponsor the enactment of legislations or make regulations for financial consumer protection.
2.1.2	Supervisory Framework	The CPD shall develop and implement mechanisms to ensure effective supervision of FIs in the area of consumer protection through offsite supervision and onsite examination. These mechanisms shall include: Consumer Protection Risk-Based Supervision; Periodic Reporting; Self-Regulation; Collaboration. ³⁰¹

Table 37: Structure and content of the CPF, 2016

²⁹⁷ These Institutions include Commercial or Merchant Banks, Specialized Banks, Micro-finance Banks (MFBs), Discount Houses (DH), Development Finance Institutions (DFIs), Finance Houses (FHs), Bureaux-de-Change (BDCs), Primary Mortgage Banks (PMBs), Credit Bureaux, Mobile Money Operators and other institutions licensed by the CBN.

These principles were developed by the Organization for Economic Cooperation and Development (OECD), the Financial Stability Board (FSB) and other relevant international organizations in response to the request by the G20 Finance Ministers and Central Bank Governors to develop common principles to guide consumer protection in the field of financial services. The principles were endorsed by the G20 in October 2011

²⁹⁹ These practices were developed in 2012 by the World Bank to complement the High Level Principles created by the OECD.

These principles were developed by the Financial Services Consumer Panel (FSCP) to guide the European Parliament in evaluating every element of the financial services legislations aimed at enhancing consumer protection.

³⁰¹ Several stakeholders are listed. These include: (a) The Consumer Protection Council: an agency of the Federal Government established by the Consumer Protection Council Act No. 66 of 1992 with the overarching responsibility for consumer protection in Nigeria; (b) Bankers' Committee: a body comprising the Central Bank of Nigeria (the Governor is the chairman), Deposit Money Banks (DMBs) and Discount Houses. The Committee has several subcommittees in charge of various issues, one of which is the Subcommittee on Ethics & Professionalism which checks unethical practices in the financial industry; (c) The Financial Ombudsman (proposed): the Office of the Nigerian Financial Ombudsman Bill seeks to establish the Financial Ombudsman to resolve financial & related disputes arising from the financial services industry; (d) Consumer Advocacy Groups: these are organizations, groups or entities set up to ensure that the rights and interests of Nigerian consumers are protected; (e)

	Responsible Business	The following specific areas are addressed under Responsible Business Conduct:
2.2	Conduct	Communication: All requests for information must be responded to timely and with clarity. Provision of financial advice: FIs shall provide consumers with objective advice to enable them make informed decisions. Responsible lending: FIs shall carry out proper credit worthiness assessment on consumers before granting credit to avoid reckless lending. Debt collection: financial institutions shall adopt debt recovery processes that are courteous and fair to consumers. Consumers must be proactively engaged and given early notice of outstanding obligations prior to the commencement of debt collection efforts. Sales promotion: marketing of products and services using incentives should be carried out in an ethical and professional manner.
2.3	Disclosure and Transparency	Financial institutions are required to provide accurate information on financial products and services to consumers at all times to enable them make informed decisions. Such information must be timely, detailed and clear. The primary coverage areas to be addressed are: Contract terms: contract terms should contain adequate information that will enhance consumers' decision making process prior to execution of the contract. Financial institutions shall also inform consumers of the possibility of variations in terms and conditions of contracts due to changes in economic conditions before such contracts are executed. Customers shall be provided with the statement of financial position at all times. Notice of Variations: FIs shall give prior notice to consumers within the time specified in contracts, before implementing variations in terms and conditions of contracts. Advertisement: Advertisements and marketing materials must convey complete and accurate information on the products and services being advertised.
2.4	Consumer Financial Education	The CBN shall collaborate with relevant stakeholders to develop a financial literacy framework taking the following into consideration: Consumer segmentation: determine the approach for engaging with and disseminating information to various segments or target groups within the Nigerian population. Content Development: content shall be developed to reflect the needs of specific consumer target groups on the basis of consumer segmentation. Strategy: a comprehensive and overarching approach will be adopted to ensure coverage in the delivery of financial education programs. Consultation & Collaboration: frequent consultations and collaborations with relevant stakeholders shall serve as a platform for exchange of information and ideas that are of interest to the industry. Stakeholders shall collaborate towards the achievement of financial education objectives. Monitoring & Evaluation: there shall be a mechanism for monitoring the performance of stakeholders with respect to implementation of various consumer financial education initiatives.
2.5	Fair Treatment	Consumers shall be treated equitably without bias at all stages of their relationship with financial institutions. Every consumer shall be given equal access to basic banking services and consideration accorded to the needs of vulnerable groups. Key themes to be addressed are:
2.5.1	Access to finance	Access to basic banking and other financial services is a critical theme around consumer protection. The CBN shall establish policies and structures to enhance access to financial products/services, especially amongst vulnerable groups.
2.5.2	Equity	Financial institutions shall not discriminate against consumers' access to basic financial services on the basis of attributes such as social status, physical ability, marital status, gender, age, religion or tribe. FIs shall treat consumers with respect and shall not engage in practices such as threats, intimidation, humiliation, misrepresentation, deception or unfair inducements.
2.5.3	Unfair contract terms	Terms and conditions shall clearly set out the respective rights and obligations of all parties to transactions in simple language. The use of technical terminologies/languages shall be limited or avoided in contract documents, where they are used, FIs shall ensure that these terminologies are clearly explained to consumers. Contract terms shall be considered unfair where there is a significant imbalance in one party's rights and obligations to the detriment of the other. The following amongst others are considered to be unfair terms; a) Limiting the liability of the financial institution in the event of total or partial non-performance of contractual obligations; b) Excluding the liability of the FI in the event of its negligence which is detrimental to the consumer; c) Clauses that bind a consumer while the corresponding obligation on the FI is conditional; d) Termination of agreements or alteration of clauses without reasonable notice to the consumer; e) Limiting the financial institutions' liability with respect to actions or commitments undertaken by

Consultants: these are individuals or entities who represent consumers and ensure that their rights are protected; (f) Relevant Government Agencies: Nigeria Deposit Insurance Corporation (NDIC), National Insurance Commission (NAICOM), Securities and Exchange Commission (SEC), National Pension Commission (PENCOM), Public Complaints Commission (PCC), National Human Rights Commission (NHRC), Economic and Financial Crimes Commission (EFCC), law enforcement agencies etc.; (g) Financial Services Regulation Coordinating Committee (FSRCC) established by Section 43 of the CBN Act, 2007 (as amended) to co-ordinate the supervision of FIs, amongst others.

		their agents; f) Giving the FI the possibility of transferring its rights and obligations under the contract, where this may reduce the rights of the consumers, without their consent; g) Excluding or limiting the right of the consumer to take legal action should infraction occur. Contract terms that conflict with regulations are null and void ab initio. Consumers or other stakeholders are encouraged to report contract terms that are in conflict with any regulation.
2.6	Protection of Consumer Assets and Privacy	Appropriate measures shall be established to guarantee protection of consumer assets and privacy. Consumer's financial and personal information shall be protected by FIs at all times and shall not be released to a third party without the consent of the consumer, except as required by law. The Bank shall establish guidelines to safeguard consumer assets and privacy against unauthorized access. The primary areas to be covered are: Fraud: the need for adequate controls to be put in place to prevent incidences of fraud. Data Privacy: the need for adequate controls to be put in place to prevent unauthorized access to consumers' confidential information.
2.7	Complaints Handling and Redress	Adequate measures shall be established to address disputes that may arise from interactions and relationships between the FI and the consumer. The existence of effective complaints handling mechanisms that are affordable, fair, timely, transparent, accessible and independent would enhance overall consumer confidence in the financial system. The primary areas to be addressed are: Complaints channels: avenues for lodging complaints shall be readily available and easily accessible to consumers. Consumers shall be made aware of the various channels. Complaints management processes or procedures: The processes and procedures for complaints management shall be simple and efficient supporting the effective resolution of consumer complaints. Consumers shall be made aware of the various recourse mechanisms. Complaints redress: provisions shall exist for the fair redress and compensation of consumers in the event of wrongful treatment. Collaborations with other bodies: effective collaborations with other dispute resolution bodies in the industry shall be established to ensure a full coverage of consumer complaints handling.
2.8	Competition	Competitive markets should be promoted in order to encourage innovation, offer consumers diverse range of financial products and services, excellent service delivery and ultimately ensure that consumers benefit from the practice of competition. To promote competition within the industry, financial institutions shall collaborate with financial regulators and other stakeholders. The critical themes to be covered are: Free Market: regulators should encourage innovation as well as free entry and exit in the industry. Switching Barriers: consumers should be allowed to terminate contracts or engage in banking transactions with their preferred financial institution without any restrictions.
2.9	Enforcement measures	The CBN shall adopt effective mechanisms to support the enforcement of consumer protection regulations. These mechanisms shall be backed by regulations in the industry.
3.1	Consumer Rights	These are listed as: a) Right to be informed—financial institutions shall provide accurate and timely information on products and services to enable consumers make informed decisions. b) Right to consumer education—consumers shall be provided with knowledge needed to make informed and confident financial decisions to enhance their economic well-being. c) Right to choose—consumers shall have the liberty to choose from a variety of products and services on offer at competitive rates without restrictions or compromising quality. This right extends to opting out when services are no longer satisfactory provided outstanding commitments are settled. d) Right to safety—financial institutions shall provide a safe and conducive banking environment, channels and platforms. e) Right to confidentiality—consumer information must be protected from unauthorized access and disclosure. f) Right to redress—consumers shall have access to an efficient redress mechanism for settlement of claims or disputes. g) Right to be treated fairly—consumers shall be treated fairly regardless of any complaint and dispute already existing between them, their financial knowledge or status, physical ability, age, gender, tribe or religion. However, subscription to certain products and services may offer consumers special benefits.
3.2	Consumer Responsibilities	Consumers have: A duty of Knowledge and Understanding A duty to meet or honor Financial Obligations A duty to Protect Financial Instruments and Information A duty to Provide Accurate and Up-to-date Information A duty to Report Unethical Practices, Fraud and Error

4.2.7.5 Regulatory Framework for Mobile Money Services in Nigeria

The Regulatory Framework for Mobile Money in Nigeria was issued by the CBN in 2015. This framework contains 16 "regulations" (herein after referred to as sections) aimed at creating "an enabling environment for the orderly introduction and management of mobile payment services in Nigeria. The framework defines the regulatory environment as a policy path towards achieving availability, acceptance and usage of mobile payment services." Despite the stated goals of the CBN in creating a level playing field, section 1 of the framework makes it quite clear that MNO's are still prohibited from participating directly in the mobile money space as while "the CBN recognizes the importance of Mobile Network Operator (MNOs) in the operations of mobile money and appreciates the criticality of the infrastructure they provide [...] the telco-led model (where the lead initiator is an MNO), shall not be operational in Nigeria." The CBN justifies the exclusion of MNO's on the basis that, "its exclusion will enable the CBN to have full control of monetary policy operations, minimize risks and ensure that the offering of financial services is driven by organizations that have been licensed by CBN to do so." As discussed previously, there are several regulatory measures that could be put in place to ensure that the provision of mobile money services by MNO's posed as little risk as possible. It therefore appears that the continued exclusion of MNO's is being driven by something other than minimizing risk.

Objectives: There are five stated objectives of the regulatory framework as follows:

- 1. Provision of an enabling environment for the adoption of mobile payment services in reducing cash dominance in the Nigeria economy.
- 2. Ensure a structured and orderly development of mobile payment services in Nigeria, with clear definition of various participants and their expected roles and responsibilities.
- 3. Specification of the minimum technical and business requirements for the various participants recognized for the mobile money services industry in Nigeria.
- 4. Provision of the basis for broad guidelines for the implementation of processes and flow of mobile payment transactions, from initiation to completion.
- 5. Promoting safety and effectiveness of mobile money services and thereby enhance user confidence in the services.

Participants: Section 6 of the framework specifically lists the six participants in the mobile money landscape as 1) regulators; 2) mobile money operators; 3) infrastructure providers; 4) other service providers; 5) consumers and 6) mobile money agents.

• Regulators: It is important to note that the Regulators for this purpose are listed as both the Central Bank of Nigeria (CBN) and the Nigerian Communications Commission (NCC). This shared regulatory responsibility creates uncertainty, and, as is evident MTN (in partnership with Lumos) has made use of the VAS license issued by the NCC to enable airtime to be used as "currency" to pay for the off-grid solar service. 303 The use of airtime for the repayment of loans

³⁰² Section 1.

In addition to the regulation of Mobile Money Operators (MMOs) by the CBN, the Nigerian Communications Commission (NCC) also regulates fintech businesses where the service offered involves mobile phones pursuant to the License Framework for Value Added Services (VAS) and the Value Added Services Aggregator Framework issued by the NCC. A VAS Provider is any person or organization that engages in the provision of value added mobile/fixed services including premium rated services and such providers are required to obtain a license from the NCC. All licenses are valid for a period of five years in the first instance, renewable on equal terms upon fulfillment of the requirements for renewal. The VAS subsector of the telecommunications industry in Nigeria employs horizontal segmentation in line with the value chain. These consist of four broad segments with the following corresponding market players: Segment 1: Network operators; Segment 2: Aggregators; Segment 3: Content and application service providers and; Segment 4: Developers of content, applications and platform. The use of airtime for the repayment of loans [or the purchase of electricity credits] can constitute a premium rated service, the provision of which requires the approval of the NCC

- [or the purchase of electricity credits] can constitute a premium rated service, the provision of which requires the approval of the NCC. 304
- Mobile Money Operators: The framework states that, "these are organizations that are licensed by the Central Bank of Nigeria to provide the system for the mobile money services. The organizations approved to perform the role of Mobile Money Operations are Banks and Corporate Organizations." Mobile Money Operators are required to connect to the National Central Switch (NCS) for the purpose of ensuring interoperability of all schemes in the system. A scheme operator can either be a bank or a licensed corporate organization.
- *Infrastructure Providers*: These are organizations providing infrastructure that enable switching, processing and settlement facilities for mobile money services. Settlement here refers to Inter-Scheme Settlement.
 - o Telecommunications: Telecommunication companies play the important role of providing the infrastructure to drive the exchange of messages for mobile payments.
 - Inter-Scheme Settlement Providers: The role of Inter-Scheme Settlement Providers shall be to provide net positions of transactions across schemes to the inter-bank settlement system to affect the finality of payment for services consummated across two different Schemes by various participants.
- Other Service Providers: it is encouraging to note that the CNB recognizes that, with the evolution of the mobile money system, spin-off services would be identified by MMOs which can be outsourced to entities with specialized skills and resources to support such services in a more efficient and effective manner.
- Consumers: simply defined as "end users of mobile money services".
- Mobile Money Agents: The framework specifically states that the activities of Mobile Money Agents are to be guided by the provisions of the Guidelines on Agent Banking and Agent Banking Relationship in Nigeria. This appears to be another anomaly, as the provision of mobile money services is neither a banking activity (deposit taking), nor solely restricted to banks.

Mobile money scenarios: Section 6 of the Framework lists three methods through which mobile money can be carried out in Nigeria. These are: 1) Bank Account Based; 2) Card Account Based; and 3) Stored Value (e-Wallet) Account Based. Technically, it submitted that scenario 1 should not be included in an emoney / mobile money regulatory framework as this refers to the use of the mobile phone as a "channel" to access underlying funds held in a bank account held at a prudentially regulated bank. The only card scenario which should be included in an e-money regulatory framework is a prepaid card and not a debit and credit card scenario as currently listed. 305

Settlement: As per section 9, the settlement finality for mobile money shall leverage the NIBSS Infrastructure and the CBN Inter-Bank Funds Transfer System (CIFTS). The Infrastructure shall facilitate instant payment to the end users and settlement of the Scheme providers on a T+1 cycle for the mobile money system.

Scheme Dispute Resolution: NIBSS is required to provide the dispute resolution platform for the mobile payment systems for the use of participants in resolving inter scheme transaction disputes. The dispute resolution process will be aligned with the global best practices for arbitration (Section 10).

Risk Management: Section 11 of the framework dealing with risk management is rather vague. It is simply stated that, "The MMOs must ensure that risk mitigation techniques are in place to minimize operational, liquidity, technical, fraud, financial and money laundering risks. The mobile payment system

³⁰⁵ Section 6.2.1.

 $^{{}^{304}\}text{ ICLG (2017) Nigeria Finteck 2007. Online: } \underline{\text{https://iclg.com/practice-areas/fintech/fintech-2017/nigeria}}$

should not be susceptible to sustained operational failures as a result of system outages. A risk compliance officer must be assigned by the MMOs, who are to provide internal risk management oversight. The CBN will review the risk management program, including all of the controls that are in place to manage the risks on a periodic basis."

Know Your Customer (KYC) and Customer Due Diligence (CDD) Requirements: All MMOs are required to comply with the provisions of the Circular on "Three – Tiered Know Your Customer Requirements" (Section 14).

Anti-Money Laundering Regulation: As per Section 15, "in addition to the provisions of the requirements prescribed in the KYC Guidelines, the CBN AML document shall also apply to mobile money service. The regulatory authorities reserve the right to change the criteria for suspicious transactions reporting in respect of mobile money as it deemed fit. Such amendments shall be communicated by appropriate channels to the mobile money operators and other stakeholders."

Consumer Protection and Dispute Resolution: Section 16 is not very helpful as all that is stated is that, "to build confidence in the mobile money system, a dispute resolution mechanism needs to be put in place."

4.2.7.6 Regulatory Framework for Licensing Super Agents in Nigeria, 2015

The eight-page regulatory framework for the licensing of super agents was released in 2015. Interestingly enough, the term Super Agent is actually not defined in the regulatory framework. However, any institution that wishes to be licensed as a Super-Agent must submit an application for approval to the CBN ³⁰⁶

Minimum requirements for a Super Agent: Paragraph 2 sets out the minimum requirements for Super Agents which are: (a) must be a company with an existing business, operational for at least 12 months; (b) must be registered with the Corporate Affairs Commission (CAC); (c) must have a minimum Shareholders' Fund, unimpaired by losses of N50million; (d) must obtain a reference letter from a Financial Institution (FI) as part of its documentation for license; and (e) must have a minimum of 50 agents.

Responsibilities of Super Agents: As per paragraph 4, Super Agents must (i) be responsible for monitoring and supervising the activities of the agents; (ii) have information on the volume and value of transactions carried out for each type of service by each agent (which should be made available to the Principal); (iii) monitor effective compliance with set limits and establish other prudential measures in each case; (iv) take all other measures, including onsite visits, to ensure that agents operate strictly within the requirements of the law, guidelines and the contract; (v) notwithstanding the responsibility by the Super-Agent (SA) to monitor and supervise their agents, the CBN may at any time request for any information or carry out inspection as it deems necessary.

Platform and interoperability: Paragraph 6 describes the various platforms, which must be used for the provision of mobile money services.

Table 38: Platform and interoperability

Ref.	Platform	Detail
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³⁰⁶ Paragraph 1. The application shall be submitted to the Director, Banking & Payments System Department, Central Bank of Nigeria, Abuja

6(a)(i)	Switching infrastructure	NIBSS shall provide the switching infrastructure to enable inter-scheme Cash-In-Cash-Out (CICO) at all agent locations.
6(a)(ii)	Super Agent platform	The Super-agents' platform shall be for the management and monitoring of the activities of their agents only, and shall not hold electronic money value, whereas, the FI shall provide and operate the mobile money platform and hold electronic money value.
6(a)(iii)	MMO platforms	All MMO platforms shall at all times be upgraded to the latest technology (inclusive of mandatory integration to NIBSS), tested and active to ensure interoperability between MMOs.
6(a)(iv)	CICO services – inter-scheme payments	CICO services for Inter-scheme payments shall be a basic function at all agent locations, other add-on services may be provided. All MMO platforms shall facilitate inter-scheme CICO services
6(b)	Interoperability	Super-Agent's platform shall be enabled to communicate with all its agents and shall have visibility of its agents' transactions through integration with NIBSS.

Interchange fees: the framework contains a sharing formula for the interchange fee (inter-scheme CICO). The parties listed as NIBSS, Issuer, Acquirer, Agent and Super-Agent.

Service NIBSS Issuer Acquirer Super-Agent Total Agent N4 N20 N35 N1 N5 N5 Cash-In N1 N9 N10 N10 N20 N50 Cash-Out

Table 39: Fee Sharing Structure

Period for holding funds not withdrawn: for over-the-counter (OTC) transactions, the period for holding funds not withdrawn by a receiving customer is 30 days. Thereafter, it will be reversed to the sender or notifications sent to the sender where the transaction does not emanate from a wallet. The receiving customer must be notified of the expiry date for the transaction.

Dispute resolution: FIs are responsible for setting up dispute resolution mechanism for their agents to facilitate resolution of customers' complaints and must treat and resolve any customer related issues within 48 hours. Non- compliance will be subject to penalty as may be prescribed by CBN from time to time. Super-Agents are required to facilitate the resolution of customer related issues. Disputes from transactions, apart from OTC, must be handled by the agents, in conjunction with mobile money operators.

4.2.8 THE GUIDELINES

The CBN has made use the powers conferred on the Bank by Section 47(3) of the Central Bank of Nigeria Act 2007 (as amended) to issue several Guidelines. The Guidelines issued to date are as follows:

- Guide to Bank Charges by Banks and other Financial Institutions, 2017;
- Exposure Guidelines on Instant Inter-Bank Electronic Funds Transfer Services in Nigeria, 2017;
- Guidelines for the Direct Debit Scheme, 2017;
- Deposit Insurance Guidelines, 2016
- Exposure Draft of the Guidelines on Instant (Inter-bank) Electronic Funds Transfer Services in Nigeria, 2016
- Revised Guideline on Transactions Switching in Nigeria, 2016
- Guideline on Operations of Electronic Payment Channels in Nigeria, 2016
- Guideline on Mobile Money Services in Nigeria, 2015
- Guidelines on International Money Transfer Services in Nigeria, 2014
- Issuance of revised Guidelines for Card Issuance and Usage, 2014
- Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013
- Guidelines for Check Truncation in Nigeria, 2012;
- Guidelines for Stored Value/Prepaid Card Issuance and Operations in Nigeria, 2012;

- Draft Guidelines on Electronic Payments of Salaries and Pensions in Nigeria, 2010;
- Guidelines for the Operations of the Switching Services in Nigeria, 2009;
- Guidelines for Electronic Banking in Nigeria, 2003

4.2.8.1 Guide to Charges by Banks and other Financial Institutions, 2017

The Guide Charges by Banks and Other Financial Institutions in Nigeria took effect on 1 May 2017. This Guideline sets prices and charges that may be levied for services and covers banks, microfinance banks, mortgage banks, mobile money operators:

Part 1 prescribes charges for banks and covers. interest on deposits (section 1); interest rates and lending fees (section 2); current account maintenance fees (section 3); commission on bonds, guarantees and indemnities (section 4); foreign exchange commissions (section 5); bills for collection (section 6); handling of documents (section 7); inward and outward letters of credit (section 8); internal transactions within Nigeria (section 9); electronic banking (section 10); miscellaneous (section 11). Part 3 prescribes charges that MMOs may levy and covers: agent-initiated transactions (section 1); self-service customer initiated transactions (section 2); other transactions (section 3).

4.2.8.2 Guideline on Operations of Electronic Payment Channels in Nigeria, 2016

These Guidelines supersede the previous Standards and Guidelines on ATM Operations in Nigeria (2010) and Guidelines on PoS Card Acceptance Services (2011), issued by the CBN. The payment channels covered and the scope of the Guideline are summarized in Table 40 below.

Table 40: Electronic Payment channels covered by the guideline

Ref	Subject	
1	GUIDELINES ON AUTOMATED TELLER MACHINE (ATM) OPERATIONS	
1.1.1	Standards on ATM Technology and Specification	
1.2	The Guidelines	
1.3	ATM Operations	
1.4	ATM Maintenance	
1.5	ATM Security	
1.6	Dispute Resolution	
1.7	Regulatory Monitoring	
1.8	Penalties	
2	GUIDELINES ON POINT OF SALE (POS) CARD ACCEPTANCE SERVICES	
2.1	Objectives	
2.2	Point of Sale Card Acceptance Services Stakeholders	
2.3	Minimum Standards	
2.4	Roles and Responsibilities	
2.5	Settlement Mechanism	
2.6	Fees and Charges	

2.7	Transition to Achieve Interoperability
2.8	Exclusivity Agreements
2.9	Minimum POS Terminal Specifications
2.10	Compliance
3	GUIDELINES ON MOBILE POINT OF SALE (MPOS) ACCEPTANCE SERVICES
3.1	Objectives
3.2	Minimum Standards
3.3	mPOS Stakeholders
3.4	Roles and Responsibilities
3.5	Settlement Mechanism
3.6	Fees and Charges
3.7	Transition to Achieve Interoperability
3.8	Exclusivity Agreements
3.9	Minimum mPOS Technical Specifications
3.10	Consumer Protection/Dispute Resolution
3.11	Compliance
4	GUIDELINES ON WEB ACCEPTANCE SERVICES
4.1	Scope of the Guidelines
4.2	Objectives
4.3	Minimum Standards for Web Acquiring
4.4	Stakeholders
4.5	Roles and Responsibilities of Stakeholders
4.6	Settlement Mechanism
4.7	Fees
4.8	Consumer Protection/Dispute Resolution
4.9	Compliance
5	DEFINITION OF TERMS

4.2.8.3 Guideline on Mobile Money Services in Nigeria, 2015

Revised Guidelines on Mobile Money Services in Nigeria³⁰⁷ were also issued by the CBN in 2015. These Guidelines are far more detailed than the Regulatory Framework and address business rules governing the operation of mobile money services.

Business rules: Guideline 7 sets out the established applicable rules for business.

- *Licensing*: In terms of 7.1, all MMOs must: a) be licensed by the CBN on such terms and conditions as contained in "Appendix I" in the document, and may be reviewed from time to time; b) be issued a unique Scheme Code by the NIBSS for managing interoperability; c) be issued unique short codes by the NCC; d) ensure that all telecommunication equipment are type approved by the NCC; e) register users of its scheme based on technology standards and the requirements of these Guidelines; and f) ensure that the registration processes within the mobile money scheme fulfills the entire KYC requirements specified in the Guidelines.
- *Activation*: Guideline 7.2 MMOs must require a registered user to activate the service before the commencement of transactions with a security code (e.g. PIN/Password etc.).
- Transactions: All transactions initiated and concluded within the mobile payment system must have a unique transaction reference issued by the system (Guideline 7.3(a)) and must have the following elements: transaction reference number, payer and payee phone numbers, transaction amount, transaction date and time stamps, and other relevant transaction details and unique identifiers (Guideline 7.3(b). Where transactions involve merchants, the following additional details must be provided: merchant category, merchant addresses and codes (Guideline 7.3(c)). As per Guideline 7.3(e), no airtime deductions may be made in respect of charges on any transaction. As per Guideline 7.3(f) MMOs are required to appoint and notify CBN of their settlement banks and all obligations arising from mobile payment transactions must be settled into settlement accounts held with Deposit Money Banks. MMOs must maintain separate accounts for their other business activities.
- *Mobile Payments Processes*: MMOs are required to put in place detailed processes that cover the entire solution delivery, from user registration and management, agent recruitment and management, Consumer protection, dispute resolution procedures, Risk management processes, to transaction settlement (Guideline 7.6).

Role and responsibility of scheme participants: the roles and responsibilities of system participants (although mobile money operators are not direct participants) is set out in Guideline 8. Once again, it is clear that while MNOs are expected to make their infrastructure available to banks and licensed corporate entities, they are excluded from participating directly in the provision of mobile money services.

4.2.8.4 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013

The Guidelines for the Regulation of Agent Banking and Agent Banking Relationships were issued by the CBN in 2013. Unlike Kenya where the Prudential Guideline *CBK/PG/15 Agent Banking Agent Banking* applies only to prudentially regulated banks, the Nigerian Guideline applies to both licensed deposit taking financial institution and/or mobile money operators.³⁰⁸

Application and Approval Requirements: Any financial institution that wishes to engage in agent banking is required to submit an application for approval to the CBN. The application must clearly state

 $^{307 \\} https://www.cbn.gov.ng/out/2015/bpsd/guidelines\%20on\%20mobile\%20money\%20services\%20in\%20nigeria.pdf$

Clause 1 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013.

the extent of agent banking activities and responsibilities of the relevant parties. Information required by the CBN for agent banking license must include:

- Name of the applicant;
- Postal Address/email;
- Business Address;
- Telephone number;
- Company Registration Number/certificate;
- Feasibility Study for the agent relationship. 309

All applications for agent banking must be addressed to the Director, Banking & Payments System Department, CBN, Abuja and include the following:

- Board Approval
- A document that outlines the strategy of the financial institution including current and potential engagements, geographical spread and benefits to be derived;
- Qualifying criteria for engaging agents e.g. outreach, competence, integrity;
- Service Level Agreements (SLAs) and Agent Banking Contract
- Risk management, internal control, operational procedures and any other policy and procedures relevant to the management of an agent banking arrangement;
- Proposal for KYC and AML/CFT compliance.³¹⁰

Renewal of Agent Agreements: Licensed institutions are advised to renew all agent agreements biennially.³¹¹

Content of Agent Contract: Every agent banking contract is required to contain reference to the financial institutions full liability with respect to customers, and it must specify the obligation of both the financial institution and the agent. The principal³¹² is allowed to use a third party (e.g. a network manager) to manage its agent network. However, all agents sign ups must be approved by the principal. Financial institutions must itemize all activities that the agent will be conducting on its behalf or limitations on any of these activities. Fees and all charges in respect of the agent banking operation must be explicitly stated in the contract together with the responsibility for payment of expenses (directly or indirectly) relating to the activities of the agent. In addition, the responsibility for the provision of infrastructure and procurement of third party service providers including undertaking for service provision must be explicitly stated. The contract must also cover the following:

- A dispute resolution clause;
- Agents are not permitted to charge any fees directly to customers, and details of remuneration for the agent must be specified in the contract between the agent and the principal;
- Measures to mitigate risks associated with agent banking services that include inter alia: limits on customer transactions, cash management, cash security, security of agent premises and insurance policies must be included in the contract;
- Agreement to provide the CBN with free, full, unfettered and timely access to the internal systems, documents, reports, records, staff and premises of the agent in so far as the agent banking business is concerned;
- Compliance with AML/CFT and KYC requirements is mandatory;
- The agent is under an obligation to deliver transaction support documents to the principal;

310 Clause 2.1.

³¹¹ Clause 2.4.

³⁰⁹ Clause 2.0.

Principle for the purposes of the Guideline is at all times a deposit taking Financial Institution and/or Mobile Money Operator (MMO).

- A statement that all information or data that the agent collects in relation to agent banking services, whether from the customers, the financial institution or from other sources, is the property of the financial institution and such information shall be kept confidential;
- Remedial action available to the financial institution in the event of agent failure to discharge its stipulated obligations;
- Agent's business hours;
- Suitable limits on cash holding by the agent and also limits on individual customer withdrawal and lodgment;
- Confidentiality of customer and user information;
- Technical description of electronic devices;
- Remuneration for the agent;
- Specifications that the agent will at all times ensure safe-keeping of all relevant records, data, documents or files or alternately, such records, data, documents or files are moved to the institution at regular pre-agreed intervals;
- A statement to the effect that employees of an agent shall not be treated as employees of the institution and the rights and duties of such shall be agreed upon between the institution and the agent;
- A provision for changing the terms of the contract and stipulations for default and determination of the contract;
- A transition clause on the rights and obligations of the parties upon termination or cessation of the agent banking contract.³¹³

Agent Eligibility: The entity must have been in legitimate commercial activity for at least twelve (12) months immediately preceding the date of the application to become an agent and the business must be a going concern. The following entities are eligible for appointment as agents:

- Limited liability companies;
- Sole proprietorships;
- Partnerships;
- Cooperative Societies;
- Public entities:
- Trusts:
- Any other entity, which the CBN may prescribe;
- Any entity which is faith-based or not-for-profit, a non-governmental organization, an educational institution, bureau-de-change or any other entity which, under any applicable law is not allowed to carry on profit-making business shall not engage in agent banking business;
- Any entity, which is subject to any regulatory authority under any written law or is a public entity, shall obtain the consent of the regulatory authority or the appropriate oversight body or authority prior to being appointed an agent.³¹⁴

Suitability Assessment of an Agent: Before the appointment of an agent, financial institutions are required to ensure that the entity meets certain criteria. These criteria are summarized in Table 41 below.

Table 41: Agent Suitability Criteria

Clause	Criteria
5.1 A.i	An existing well established commercial activity that has been operational for at least twelve (12) months immediately preceding the date of the suitability assessment.

 $^{^{313}}$ Clause 3 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013

Clause 4.1 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013

5.1 A.ii	The entity must not have been classified as a non-performing borrower by any financial institution in the last 12 months preceding the date of signing the contract (such information having been obtained from a licensed Credit Bureaux). The performing status must be maintained for the duration of the agency.
5.1 A.iii	Appropriate physical infrastructure and human resources to provide the services required.
5.1 A.iv	For purposes of carrying out an assessment under this clause, the proposed agent must complete an agent assessment form.
5.1 B	Prior to the appointment as an agent, any entity that seeks to be appointed as an agent by an institution must furnish the institution with the following information as applicable: Name of the entity proposed to be an agent; Certificate of incorporation or business registration; Description of the commercial activity the entity has been carrying on for the last twelve months immediately preceding the date of the application; Valid business license or permit for any regulated commercial activity carried on by the entity for at least twelve months prior to the date of the application; Audited financial statements for the last two years where applicable; Tax clearance certificate; Physical location, postal address and telephone numbers of the entity and its working hours; Evidence of availability of funds to cover agent operations including deposits and withdrawals by customers, and Any other information the financial institution may require. 315
5.1 C	The financial institution is required to keep all information provided by the agent safe and confidential and to make this information available to the CBN on request.
5.1 D	The financial institution must endeavor to obtain accurate information from the entity and its officers or employees.
5.1 E	Any entity which or whose proprietors, partners, officers or employees furnish a financial institution with false or inaccurate information under this Part will be disqualified from conducting agent banking business.
5.1 F	Every financial institution is required to sensitize its agents on the provisions of this Guidelines and the obligation to comply with its requirements.
Moral and P	rofessional Suitability of a Prospective Agent
5.2	Financial institutions must assess the moral, business and professional suitability of the sole proprietor or partners proposed to be appointed as agents. In the case of a corporate entity, the financial institution must assess the moral, business and professional suitability of the chief executive officer and the officer(s) in charge of or responsible for agent banking operations of the entity. These persons will for the purpose of suitability assessment under this Part, furnish the financial institution with a duly completed agent appraisal form for sole proprietor, partner, and corporate entity. In assessing the suitability of a corporate entity, sole proprietor, partners or officers of a corporate entity, the financial institution must have regard to the following: Negative information obtained from Credit Bureaux or other credible sources; Any criminal record in matters relating to finance, fraud, honesty or integrity; Reputation (based on references from at least two people of good social standing living in the same locality as the person and who have known the person for at least three years); Business or work experience; Sources of funds; The business track record of the entity in the last three years where applicable. Any other information that may negatively or positively impact on the prospective agent.

Agent Due Diligence: Financial institutions are required to establish efficient and thorough Agent Due Diligence procedures to mitigate risks. Financial institutions should institute clear, well documented Agent Due Diligence policies and procedures. The minimum content must include: methods of identifying potential agents, initial due diligence, and regular due diligence checks to be performed at specified intervals and check list of early warning signals and corrective actions to ensure proactive agent management. The roles and responsibilities of functions and or departments within the financial institution with respect to agent management must be clearly specified in the Agent Due Diligence procedures.

³¹⁵ Where a prospective agent is unable to meet these requirements, it is not precluded from being a sub-agent, where there is a super-agent structure.

³¹⁶ Clause 5.3 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013

In addition, financial institutions must ensure that proper AML/CFT monitoring processes exist for agent banking. The necessary actions to be taken by agents in this regard must be communicated to the agents and the agents' compliance monitored. Due Diligence must also include:

- Verification of legal status of the Agent;
- Verification of address or location of all prospective agents;
- Establishing that there are no relationships with the financial institution that may be detrimental to the agent banking relationship;
- Verification of the adequacy of the prospective agent's resources for agent banking; and
- Any other measures deemed necessary by the financial institution.

Key Roles and Responsibilities of the Financial Institution: The key roles and responsibilities of the financial institution are set out in clause 6.0 and 6.1 of the Guideline and summarized in Table 42 below.

Table 42: Key roles and responsibilities of the financial institution

Clause	Roles and responsibilities		
6i	Financial institutions must make a clear, informed and documented decision on the use of agents for rendering banking services to its customers.		
6ii	Financial institutions must develop an appropriate agent banking contract and appointment of eligible agents based on the set out criteria.		
6iii	Financial institutions are wholly responsible and liable for all actions or omissions of its agent. This responsibility extends to actions of the agent even if not authorized authorized in the contract so long as they relate to agent banking services or matters connected therewith.		
6iv	Financial institutions must maintain effective oversight of the agent's activities and ensure that appropriate controls are incorporated into its system in order to assure compliance with relevant regulations.		
6v	Financial institutions must assess the adequacy of controls of outsourced activities through regular audits.		
6vi	Financial institutions must formulate and implement policies and procedures to safeguard the information, communication and technology systems and data from threats.		
6vii	Financial institutions must provide agents with such operational guidelines/manuals and risk management policy documents as are needed for rendering services to customers efficiently.		
6viii	Financial institutions must include a risk-based review of critical agent banking processes to ensure that the policies, rules, regulations and operational guidelines are adhered to.		
6ix	Financial institutions must select credible agents with suitable/convenient outlets.		
6x	Financial institutions must manage and mitigate risk associated with the engagement of agents that provide financial services on their behalf.		
6 xi	Financial institutions must provide basic financial education to customers and agents and must periodically train its agents.		

Permissible and Prohibited Activities: It is the responsibility of the financial institution to determine, based on agent risk assessment, which services a particular agent may provide. In Table 43 below, the permissible and prohibited activities that may be performed by agents are set out.³¹⁷

Table 43: Permissible and prohibited activities of agents

P	Permi	ssible activities	Pro	hibited activities
ü	i	Cash deposit and withdrawal.		Operate or carry out any transaction when there is communication failure with the financial institution
ü	i	Bills payment (utilities, taxes, tenement rates, subscription etc.)		Carry out a transaction where a receipt or acknowledgement cannot be generated.

 $^{^{317}}$ Clause 6.2 and 6.3 Guidelines for the Regulation of Agent Banking and Agent Banking Relationships, 2013

ü	Payment of salaries	Charge the customer any fee
ü	Funds transfer services (local money value transfer)	Give any guarantee
ü	Balance enquiry	Offer banking services on its own accord
ü	Generation and issuance of mini statement	Continue with the agency business when it has a proven criminal record involving fraud, dishonesty, integrity or any other financial impropriety
ü	Collection and submission of account opening and other related documentation	Provide, render or hold itself out to be providing or rendering any banking service which is not specifically permitted in the contract
ü	Agent mobile payments/banking services	Open accounts, grant loans or carry out any appraisal function for purposes of opening an account or granting of a loan or any other facility except as may be permitted by any other written law to which the agent is subject
ü	Cash disbursement and cash repayment of loans	Undertake check deposit and encashment of checks
ü	Cash payment of retirement benefits	Transact in foreign currency
ü	Check book request and collection	Provide cash advances
ü	Collection of bank mail/correspondence for customers	Be run or managed by a financial institution's employee or its associate
ü	Any other activity as the CBN may from time to time prescribe	Sub-contract another entity to carry out agent banking on its behalf except where there is a super-agent structure in place

Exclusivity Agreements Prohibited: Exclusivity of agent banking contracts between financial institutions and agents are prohibited. An agent is permitted to provide agent-banking services to as many financial institutions as it can accommodate at any given time. The capacity of the agent to accommodate more financial institutions must be determined by the additional/incoming financial institution. 318

Supervision of Agents: Financial institutions are responsible for monitoring and supervising the activities of their agents.³¹⁹ Financial institutions are required to have information on the volume and value of transactions carried out for each type of service by each agent and must monitor effective compliance with set limits. Financial institutions must implement measures to control operational risks, including having clause(s) in the contract establishing the liabilities of the agent. Other measures such as onsite visits by the financial institution's staff or authorized persons to ensure that agents operate strictly within the requirements of the law, guidelines and the contract must be put in place.³²⁰

Publication of Lists of Agents and Locations: Financial institutions are required to publish an updated list of all their agents on their websites and include the list in their annual reports. In addition, financial institutions are permitted to publish a comprehensive list of agents on flyers, corporate gifts and such other publications. The publications containing the list of agents must be disseminated to all branches and may also be disseminated to agents.³²¹

Settlement and Technology Requirements: All transactions must be carried out on a real time basis. As such, financial institutions must deploy technology that facilitates instant payment to the end users account. Financial institutions are also required to provide agents with settlement positions for the reconciliation of transactions.³²²

³¹⁸ Guidelines 7 Regulation of Agent Banking and Agent Banking Relationships, 2013

³¹⁹ Clause 8.

³²⁰ Notwithstanding the responsibility of financial institutions to monitor and supervise their agents, the CBN may at any time request information or carry out an inspection as it deems necessary.

³²¹ Clause 9.

³²² Clause 11.1.

Technology implemented by financial institutions for agent banking must comply with the industry standard technology in terms of hardware and software. As such, financial institutions must ensure that:

- Transaction information is transmitted in a secure manner;
- The technology deployed comprises a set of interoperable infrastructure modules that work seamlessly;
- There is an end-to-end connection from the financial institution to the agent;
- Customers get immediate value for successful transactions;
- Payment instructions are instantly executed;
- In the event of failure of communication during a transaction, immediate reversal is mandatory;
- Generation of receipts or durable acknowledgements for successful transactions;
- Automatically deny an agent exceeding the daily limit allowed or performing unauthorized transactions;
- An audit trail is maintained and made available on request;
- All settlement information details are preserved for a minimum period of 5-years; and
- Adequate measures to mitigate all the risks that could arise from the deployment and use of the agency banking IT architecture are put in place. 323

Data and Network Security Requirements: Financial institutions are required to put in place systems that specifically and at a minimum address the following issues:

- Physical and logical security of infrastructure;
- Availability of services;
- Data confidentiality and integrity;
- Encryption of PIN and electronic transactions;
- Customer accountability and non-repudiation of transactions; and
- Error messaging and exception handling. 324

Third Party Providers: Financial institutions are permitted to enter into a written contract with a third party service provider for the following:

Technology platform;

- Agent selection;
- Agent network management;
- Agent training;
- Equipment provision;
- Equipment maintenance.

It must be noted however, that such contracts do not constitute agent banking and financial institutions are responsible for the agent banking business even where a third party service provider is contracted to provide the services specified above.³²⁵

Risk Management: Financial institutions are responsible for monitoring and supervising the activities of their agents. ³²⁶ With respect to specific risk management requirements, financial institutions must:

- Have information on the numbers and volumes of transactions carried out for each type of service by each agent;
- Monitor effective compliance with set limits and establish other prudential measures in each case;

324 Clause 11.3.

³²⁵ Clause 12.

³²⁶ Clause 13.

³²³ Clause 11.2.

- Implement measures to control operating risks, including having clause(s) in the contract establishing the liabilities of the agent;
- Undertake periodic physical visits by institution's staff or authorized persons to ensure that agents operate strictly within the requirements of the law, guidelines and the contract;
- Shall pay special attention to credit risk, operational risk, legal risk, liquidity risk, reputation risk and compliance with rules for combating money laundering and financing terrorism;
- Conduct due assessment of agent's credit worthiness and set limit structures for agent's various activities commensurate with this assessment;
- Devise product programs, procedure manuals and customer transaction limits keeping in mind implications for operational and liquidity risks for agents;
- Manage wireless or electronic banking related risks as well as information and data security risks in a prudent manner;
- Have a business continuity management plan that covers Agent Banking Operations to mitigate any significant disruption, discontinuity or gaps in agent's functions;
- Put in place appropriate product and operations manuals, accounting procedures and systems and design appropriate forms/stationery to be used by the agent:
- Institute systems and personnel to adequately monitor and control agent banking operations on an ongoing basis.

Anti-Money Laundering: Clause 14 of the Guideline covers anti-money laundering requirements. Specifically, clause 14.2 requires financial institutions to train their agents on anti-money laundering (AML) and combating of financing of terrorism (CFT) requirements. Financial institutions must ensure that:

- Customers are identified with at least any of the following; IDs, PINs, passwords, payment card, secret code or secret message while performing any transaction requiring identification;
- Agents report to the financial institution all suspicious activities that come to the agent's knowledge within twenty-four (24) hours;
- Agents conduct banking business strictly within the transaction limits prescribed by the financial institution;
- Compliance is ensured with the requirements of the Money Laundering (Prohibition) Act, 2011 and Financing of Terrorism (Prohibition) Act 2011.

Consumer Protection: Clauses 15 to 18 of the Guideline cover consumer protection requirements. Appropriate consumer protection systems against risks of fraud, loss of privacy and loss of service must be put in place by financial institutions for the purpose of establishing trust among consumers of agent banking services. 327 The requirements set out in Table 44 below must be complied with at all times.

Table 44: Consumer	· protection	requirements
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Clause	Information
15.1i	FIs must establish mechanisms that will enable their customers or users to appropriately identify their agents and the services provided through such agents. iii. Where an agent acts as a receiver and deliverer of documents, an acknowledgement shall be provided for all documents received or delivered by the agent to or from the customer.
15.1ii	Agents must issue receipts for all transactions undertaken through them and financial institutions must provide their agents with necessary tools that enable generation of receipts or acknowledgements for transactions carried out through agents. In this regard, electronic receipts or acknowledgements are permissible.
15.1iii	A channel for communication of customer/agent complaints to the financial institution must be provided. Financial institutions must provide dedicated customer care telephone numbers for lodging complaints by their customers. The customers/agents must also be able to use these telephone numbers to verify with the financial institution, the authenticity

³²⁷ Clause 15.

	and identity of the agent, its physical location and the validity of its agent banking business.
15.1iv	Financial institutions must establish complaints redress mechanism and ensure proper communication of this mechanism to their customers.
15.1v	All customer complaints must be resolved within a reasonable time and not later than fourteen (14) days from the date of reporting or lodging the complaint with the financial institution. Financial institutions must keep records of all customer complaints and how such complaints are redressed.
15.1vi	An agent must have signs that are clearly visible to the public indicating that it is a provider of services of the financial institution with which it has an agency contract. The agent may not however represent to the public that it is a financial institution.
15.1vii	In the provision of agent banking services, financial institutions must use secure systems that ensure customer information confidentiality.
15.1ix	Customers must be made aware of the fact that they should not carelessly store PIN and other critical information or share such information with other parties including agents.
15.1x	Financial institutions must establish contact centers to facilitate communication between a customer and the financial institution.
16	The agent must display in a conspicuous place on its premises the following: Name and the logo of the financial institution; Banking services offered; A notice to the effect that services shall be provided subject to availability of funds; Charges or fees applicable for each service which are payable to the financial institution by customers; The dedicated telephone number(s) through which customers can contact the financial institution; The name, telephone numbers and location of the institution's branch to which the agent reports its agent activities. On request by a customer, an agent must show a copy of the approval letter issued by the Central Bank to the financial institution, a copy of its appointment letter as agent by the financial institution and the current license for the commercial activity being undertaken by the agent. These documents must be readily available in the agent banking premises.

Branding and Advertising: Financial institutions may choose to brand their agent network service under any brand name. However, use of protected words such as "bank", "finance", "financial institution", "financial intermediary" or their derivatives or any other word suggesting that the agent is itself a financial institution is prohibited. In advertising its agent service network, the financial institution may not in any form misrepresent the agent as a financial institution or mislead the public as to the services available at the agent's premises. Agents are prohibited from branding their premises in a manner that may suggest that they are a financial institution. Agents must display their principal's name and logo in a conspicuous manner and ensure that where there is more than one principal the names and logos are similarly displayed. 328

Statutory Returns: Financial institutions must, at the end of every month and not later than the 10th day of the following month, submit to the CBN, data and other information on agent operations including:

- Nature, value and volume of transactions;
- Incidents of fraud, theft or robbery; and
- Nature and number of customer complaints and remedial measures taken. 329

In addition, financial institutions must include all activities of their agent banking operations in their annual reports and accounts. 330

329 Clause 19.

330 Clause 19.1.

³²⁸ Clause 17.

4.2.8.5 Guidelines for Stored Value/Prepaid Card Issuance and Operations in Nigeria, 2012

In addition to mobile money regulations and guidelines, CBN has issued a separate guideline focused exclusively on stored value and prepaid cards. As discussed in previous sections of this report, prepaid cards are technically a form of e-Money as is mobile money and should, for all intents and purposes not be separately regulated. This is part of the problem with the current legal and regulatory framework which is not technology neutral.

Stored-value cards are payment cards where money is on deposit with the issuer, but the card account is not linked to a current or savings account. The individual transactions limits, the daily transactions limits, and the maximum amount that can be loaded on the card, are as specified in these guidelines. Stored value cards are usually anonymous in nature and issued outside of banking hall.³³¹

Prepaid cards are payment cards where money is on deposit with the issuer, but the card account is not linked to a current or savings account. The individual transactions limits, the daily transactions limits, and the maximum amount that can be loaded on the card, would be as specified by the issuer. It is important to note that only deposit-taking banks or financial institutions licensed by the CBN with clearing capacity are permitted to issue stored value/prepaid cards. Other deposit taking institutions without clearing capacity can issue in conjunction with those with clearing capacity.³³² Several general and specific requirements set out in the Guideline are summarized in Table 45 below:

Table 45: General and specific requirements for stored value and prepaid cards

Guideline	General Requirements
3.2	Only one stored value/prepaid card shall be issued per person per currency per product by an issuer at any anytime.
3.3	The usage limits and frequencies shall be defined by each participating bank.
3.4	All stored value/prepaid card transactions shall be subject to current Nigerian Financial Intelligence Unit (NFIU) reporting requirements.
3.5	All card issuers must render monthly returns to the CBN on the number of stored value/prepaid cards in issue, volume of transactions and gross amount of transfers from/to stored value/prepaid cards for inclusion in the national statistics on payments.
3.6	All stored value/prepaid card account Naira balances shall be considered deposit liabilities by the issuing bank or financial institution and therefore subject to deposit insurance protection up to the limit provided by the Nigerian Deposit Insurance Corporation (NDIC) for bank deposits.
3.7	A stored value/prepaid card holder or his/her estate shall, upon request, be entitled to receive a cash refund of the outstanding balance of the card account from the issuing bank or institution
3.8	The fee for loading salary payments unto a stored value/prepaid card shall be paid separately by the salary payer and not deducted from the balance value of the stored value/prepaid card.
3.9	Operators, including mobile/telecommunications operators, wishing to operate money transfer schemes with stored value/prepaid cards shall do so with requisite approval from the CBN and, at all times, in strict conjunction with licensed deposit-taking banks or financial institutions.
3.10	Stored value/prepaid cards shall be issued without regard to where actual value resides; value shall be held in either centrally-connected network databases or in non-network attached electronic devices, including, but not limited to, smart/chip cards and mobile handsets.
3.11	All Stored value/prepaid cards shall be EMV-compliant (i.e. Chip and PIN enabled).
3.12	The CBN Guidelines for Transaction Switching and Card Issuance and Guidelines on POS Card Acceptance Services shall also apply to stored value/prepaid cards unless where specifically overwritten in these Guidelines.
Specific Requ	rirements Stored Value Cards

Appendix: Definition of Terms Guidelines for Stored Value/Prepaid Card Issuance and Operations in Nigeria, 2012
 Clause 3.1 Guidelines for Stored Value/Prepaid Card Issuance and Operations in Nigeria, 2012

4.1	No stored value card shall be issued to a person without obtaining minimum KYC which includes name, phone number, and address of the person. The issuer shall ensure that at least one of the KYC information is validated.
4.2	The maximum amount that can be loaded on the stored value card shall not exceed N50, 000 per day.
4.3	The maximum balance on the stored value card shall not exceed N250, 000 at any time.
4.4	The limits specified for stored value cards shall also apply to cards linked to mobile money wallets, where least KYC (Phone Number and Name) has been performed on the mobile money customer.
Specific F	Requirements Prepaid Cards
Specific F 5.1	Prepaid Cards Prepaid cards issued will operate at least within the minimum KYC requirements prescribed by the CBN. However, loadable limits (in Naira and Foreign currency) and daily balances will be determined by the issuing bank.
1	Prepaid cards issued will operate at least within the minimum KYC requirements prescribed by the CBN. However, loadable
5.1	Prepaid cards issued will operate at least within the minimum KYC requirements prescribed by the CBN. However, loadable limits (in Naira and Foreign currency) and daily balances will be determined by the issuing bank. No prepaid card shall be issued beyond the limits of a stored value card to a person or a corporate organization. Where a

PART C: RECOMMENDATIONS

5. RECOMMENDATIONS FOR DONORS AND INDUSTRY

The recommendations set out below are suggestions to foster an environment conducive to debate and discussion. The PAYG solar question is a complex one, which requires the interaction and agreement of several stakeholders at the confluence of alternative energy provision, financial inclusion, consumer protection and the stability and soundness of the National Payment System in Nigeria.

5.1 PROMOTING A HOLISTIC, LEGALLY-BINDING REGULATORY FRAMEWORK

As this report has illustrated, the CBN is dedicated to advancing the development of the NPS and advancing Financial Inclusion. However, several constraints are evident. The first of these is the fact that the *Payment System Management Bill, 2017* has yet to be promulgated. Without the promulgation of this Bill, the CBN will be forced to continue to rely on provisions in the *Central Bank Act, 2007* as the only legal mandate to issue Guidelines and Frameworks. What is needed at this time is a consolidation of the legal and regulatory framework along the lines of the streamlined and efficient legal and regulatory framework adopted by the EU. It is necessary to "fix the core" before advancing legislation and or recommendations on retail payments and e-Money. The legal and regulatory framework of retail payments (prudential and market conduct requirements) also needs to be consolidated.

As confirmed by the CBN and NCC, work is underway to revise the regulatory and legal framework to permit MNOs into the ambit and operational and legal space of the NPS. As such, this is no longer an objective of donor or industry intervention as this has already been agreed at the highest level. While this initiative is praised and supported, it is submitted that the CBN need to conduct a thorough review of the current legal and regulatory framework and consider an appropriate and streamlined legal and regulatory framework going forward (consolidation into 3 to 4 enforceable Acts instead of numerous and sometimes contradictory Guidelines and Frameworks). It does not make sense to continue to regulate mobile money in a separate legal and regulatory framework when it has been internationally accepted that mobile money is a form of e-Money. It also appears that the current framework confuses USSD banking (mobile phone used as a channel to access a conventional bank account (deposits) is an issue that needs addressing.

Recommendation for Donors and Industry: Engage with the CBN and NCC on reviewing the current legal and regulatory framework (numerous guidelines, frameworks and circulars) against international best practice and how best to consolidate these into 3 – 4 enforceable laws (with supporting regulations). Several African countries have moved away from regulating on a technology specific level (mobile money regulations) and have moved towards a NPS Act (covering the matters currently covered in the Payment System Management Bill (PSMB) 2017 and in addition e-Money and Payment Services. Having numerous Guidelines and regulatory frameworks issued by two different regulators (CBN and NCC) not only causes confusion in the market, but also erodes the legitimacy of any framework and guideline issued. A full review should be conducted, contradictory provisions identified and a streamlined legal and regulatory framework proposed.

5.2 ROBUST CONSUMER PROTECTION

Consumer Protection legislation and regulations are key to the advancement of financial inclusion and building trust in the DFS ecosystem and the end user. As noted in section 2.4 of this report, the off-grid solar industry is taking the lead in several developing countries in developing a Consumer Protection Code of Conduct. Given the fact that the connecting a service and product that is really needed by Nigerian consumers with the financial inclusion agenda really makes sense, USAID has the opportunity to drive the financial inclusion, consumer protection and off-grid solar PAYG opportunity by driving the

research and issuance of an appropriate and customer centric consumer protection code. While this is likely to be specific to the PAYG solar product at this time, the principles and approach could very easily be generically applied and applied to other DFS subsidiary products and services. The fact that MTN/Lumos have classified a "bill payment" as a VAS is cause for concern. It is acknowledged that this was necessary to come up with a creative solution to the current prohibitory regulatory framework, but it is not technically or legally correct to have done so. Airtime is not fiat currency and those using it to pay for a product and service such as PAYG solar are not technically protected under standard legal norms.

Recommendation for Donors and Industry: Leverage the work being undertaken by the Smart Campaign to research and design an appropriate consumer protection framework for off grid solar in Nigeria. This should cover both the quality of the SHS, the financial terms by lenders and the standard consumer protection terms related to electronic payments (see reference to electronic Money Directive and PSD2). This document could be used to drive the need for change and spur the move toward responsible financing and consumer protection.

5.3 A CUSTOMER-CENTRIC NATIONAL AGENT NETWORK

At several junctures in this report the problems associated with building an agent network for both branchless banking and mobile money (bank-led, non-bank led and even MNO led) have been discussed. Fortuitously it was announced in March 2018 that the Shared Agent Network Expansion Facilities (SANEF), a joint initiative of the CBN, several Deposit Money Banks (DMBs), licensed mobile money operators (MMOs) and super agents has been launched in Nigeria. This involves the establishment of a 500,000-strong agent network over the next few years. It also places higher target priorities on the geopolitical zones in Northern Nigeria where financial exclusion is predominant. Nigeria currently has a highly fragmented agent network. While precise numbers are not publically available, according to the CBN, there were only 11,000 mobile money agents in 2017. When compared with other countries such as Ghana (140,000 agents) and Kenya (165,000) it is clear that Nigeria has nowhere near enough agents to make an agency banking / mobile money agency strategy succeed. This joint initiative provides the ideal opportunity to "peg" PAYG solar on the back of an initiative aimed at taking financial services to previously unreached areas. The initiative will also aim to address the issue of remote BVN enrolment and account opening.

Recommendation for Donors and Industry: Engage with the stakeholders involved in this worthwhile initiative in order to provide funding and technical support. It is also the ideal opportunity to test a multiple payment service provider strategy for PAYG solar and what would be needed in terms of distribution and payment mechanisms from a practical, technical, policy, legal and regulatory perspective. It may even we worthwhile engaging with MasterCard to see if the QR code solution being tested in Uganda would be a viable option for Nigeria.

5.4 PROMOTING INTEROPERABILITY

Mobile money (a MNO-led option) is not the only solution for Nigeria. It is unlikely that, given the challenges previously experienced in other country markets (such as Ghana, Tanzania, India, and Pakistan), that simply opening up the e-Money space to MNOs will solve: 1) distribution issues; 2) technical interoperability problems; 3) MNO unfamiliarity with mobile money and bill payments; 4) limited agent networks and 5) incomplete regulatory frameworks for e-Money applications. As discussed in Section 3.1.3 of this report, there are many service providers that are able and willing to provide the payment mechanism of the PAYG off-grid solar value chain, but engagement is limited without solving existing interoperability and API challenges.

Recommendation for Donors and Industry: Engage with industry stakeholders including CBN, NCC, NIBSS, Interswitch and other current NPS participants and service providers to support any initiative required to ensure that all payment platforms in Nigeria are interoperable and that payments can be made from bank account to MMO and from MMOs to MMOs. While opening up the market to telecom may aid in assisting the CBN to meet its financial inclusion targets over the long run, this is not a silver bullet and the market will require a diverse DFS provider network. 333

5.5 MAXIMIZING GOVERNMENT ENERGY ACCESS PILOTS

Recommendation 5 is a practical intervention that revolves around the Energizing Economies Program (EEP), in which REA is testing several electronic payment solutions across various marketplaces. As this research has demonstrated that the full functionality of mobile wallets is not fully utilized, with agents often collecting physical cash from traders and making payments on their behalf, there is still much progress that can be made with these promising government projects. Without an on-the-ground assessment of mobile wallet integration into EEP and other pilots, it is difficult to discern the following critical data points:

- 1. Are traders are aware of the benefits of a mobile money account and how it can be used for other financial transactions / savings?
- 2. What level of financial literacy training is taking place with agent on-boarding?
- 3. What is the specific payment process? How familiar are traders with mobile phones / bill payment functionality?
- 4. Can shopkeepers and traders complete payments directly (USSD bill pay) or can a payment be completed online and through an agent?
- 5. Is there any brand value for PAGA/other providers?
- 6. What is the scope of agent activities within the market? Are contract agreements distributed to traders under such programs, in terms and conditions easily understood?
- 7. What is the existing customer service and dispute resolution process?

Recommendation for Donors and Industry: Engage the Rural Electrification Agency (REA) and current payment service providers to maximize the Energizing Economies Program (EEP)- and future government pilots- as practical test cases demonstrating ideal legal and regulatory requirements, consumer protection provisions, and optimal business and financing models. Building upon the work that has already been done by the Nigerian Government, these pilots could prove ideal "mini regulatory sandboxes" to test innovation and promote advantageous legislation and clear implementation processes.

As noted in Part A of this report, usually in order use mobile money, companies such as M-KOPA register to receive a bill pay number and access the Instant Payment Notification (IPN) data. Through application programming interfaces (APIs) over standard protocols (e.g. HTTP/HTTPS), PAYG providers are able to seamlessly integrate their back-end system - Customer Relationship Management (CRM) system with a mobile money provider's IPN. Unfortunately, unless compelled to do so my regulation mandating interoperability, few MNOs /MMOs voluntarily open up their APIs. Most PAYG providers therefore need to complete a custom technical integration with each mobile money platform they support. In cases where resources are constrained, this can take several months, several in-person visits and requires significant technical resources.

APPENDIX

LICENSED PSSPS

PSSP	Platform	Description
Interswitch Nigeria Ltd	See above.	
SystemSpecs Limited	Remita	Wide range of channels: Remita App (available on Google Play Store and iOS), Biller's Website, Internet Banking, Mobile Wallet, remita.net, POS, or ANY bank branch in Nigeria. Bill and merchant payments. Direct Debit mandates or Standing Order on accounts domiciled in any bank in Nigeria to make regular payments. Adopted by the Central Bank of Nigeria for the payment and collections of funds on behalf of the Federal Government of Nigeria. "Push" and a "Pull" Model to receive funds.
Parkway Projects Limited	CASHFLOW®	An electronic invoicing presentation and payment platform targeted primarily at SMEs.
	InfoGrid-Bank3D® Payment	Workflow driven corporate payments (Salary, Vendor, B2B, and invoice) administration solution built to allow for effective streamlined payments to any category of recipient.
	InfoGrid-Bank3D® netPay	Convenient, & secure web payment gateway that provides support for direct and real-time integration to card/payment processors as well as e-Commerce sites in order to enable the transaction acquirer acquire transactions made online to its corporate customers.
	Remittance Management System (Infogrid-Bank3D® Funds Transfer)	Multi-channel Person-to-Person (P-to-P) payments and funds transfer solution that provides for the seamless processing & administration of funds transfer transactions originating from channels such as Web, Bank branches, Mobile phones and ATM terminals, terminating as Cash or Direct Account deposits.
	Mobile Money Service (ReadyCash®)	CBN-licensed mobile payment service that provides individuals with a convenient way to create & manage electronic wallets (virtual accounts) where they can store money (mobile money) and execute transactions. In addition, customers can make payments for goods and services (utility bills, phone recharge, and merchant payments) from their mobile phone, anywhere within Nigeria.
	Bill Payment Service (Payzone®)	A collection aggregation solution that provides individuals, subscribers and customers of retailers / merchants with convenient means to place orders and make payments to various bank's corporate for services (Bills Payments – utility, tickets, airtime, reservations and commodities payments) over the web (card payment, internet banking).
Upperlink Limited	BAMS Nigeria	The Bank Account Monitoring System is a web based system developed for day to day management of all bank accounts of a state and corporate organizations. PayChoice An enterprise suite of payment and collections solution.
	Processing platform	Processing EMV and PCI-DSS certified online authorization platforms and processes. Provide a backbone that enables clients to deliver on promises to cardholders.
	Debit, Credit & Prepaid Card Issuer Processing Services	Platform to issue Debit, Credit, Prepaid and/or Pre-authorized debit cards; online/offline solutions, single or dual currency card products, contact/contactless card solutions. ATM or Points of Sale Acquirer Processing services. mLoyalty solutions. Card procurement and personalization.
	Switching services	Partner with and offer domestic switching services to the community of Issuers and Acquirers under Private Membership arrangements. This significantly helps in reducing downtimes and potential points of failure.
Unified Payments Services Limited	Merchant Services	UPS is the joint acquirer of Visa card transactions at all merchant locations in Nigeria, be it at physical Point of Sale (PoS) or virtually on the Internet. By this service, merchants in Nigeria now have the unique opportunity to offer their goods and services for sale to the global

		community of over 1.6 billion Visa cardholders, either through the Internet or at their physical outlets.
	PayAttitude®	Interoperable multi-bank and mobile network-independent NFC-based contactless solution for m-Commerce and m-Banking.
	Payarena	Value added services platform that offers customers access to services which include purchase of Airtime (Virtual Top Up, Prepaid PINs etc.,) for all Telcos in Nigeria, payment of bills to major utility service providers, collection services platform to public and corporate organization, churches etc., and Money Transfer service. The platform accepts multiple payment options including Cards (Visa card, MasterCard, UnionPay card, PayAttitude, etc.,) and it is accessible on multiple channels i.e. Web (www.payarena.com), 40,000 Point Of Sale (POS) terminals and ATMs all over the country.
Xpress Payments Solutions Limited	XpressPay	Value-Added Services (VAS) platform designed to avail customers the following services: a) Airtime Purchase; b) Bills Payment; c) collections services for Government parastatals/donations for religious institutions etc.; d) funds transfer to self or 3rd Party beneficiaries; e) setup recurring payment instructions.
	eCashier	This is a multi-account and multi-bank collection platform designed to enable Banks via their branches collect funds on-behalf of Public and Private Sector Clients, Religious organizations etc. from Payers/Donors/Subscribers/Customers for payment for various services such as PAYE, Taxes, Fines, Licenses, Bills or donations etc.
	XpressPayOut	Web-based multi-account, multi-bank solution capable of handling high single and large volume bulk payments to beneficiaries while providing a wide range of customizable and detailed reports. It is specifically designed to manage Salary payments, Pension payments, payments to Vendors etc.
	PayXpress	Web acquiring gateway solution for Merchants and business owners. It enables Merchants receive payments from customers that desire to use various payment options such as: a) Cards e.g. Visa card, MasterCard, Verve card etc. and b) bank account via Internet banking.
PayAttitude	PayAttitude ® DebitPlus	Supports Proximity/Contactless payments by subscriber and linked to a Debit Account.
	PayAttitude ® PrepaidPlus	Supports Proximity/Contactless payments by subscriber linked to a prepaid account or mobile money account.
Venture Gardens	Technology Platform	Venture Garden Group (VGG) is a leading provider of innovative, data-driven, end-to-end technology platforms addressing reconciliation and payment processing inefficiencies across multiple sectors of the African economy.
Epurse Systems Limited	Smart Card Solutions	Automated Fare Collection Solution; GPS Mapping; Smart Cards and smart card operating systems; Smart card/fingerprint readers; Smart card readers with PIN entries; PC-Linked Smart Card Readers; Contactless Readers; Automatic Fare Collection Readers; Software Development Kits.
	BankIT	Alternative payment option, a gateway that works directly with customers' bank accounts accessible through multiple channels – Web, Mobile, and USSD.
	eTranzact mCommerce solution	Mobile banking application that can be used by all networks and can interface seamlessly with third party payment schemes.
	eRemit	An online international money transfer service. Using the eTranzact global payment gateway, the eRemit solution offers customers the facility to remit money, and have the money wired for collection by a named beneficiary in any country where eTranzact is present.
	eTranzact ATM CardlexCash	Designed for the eTranzact global payment network; the solution allows a transferor (person sending the money) to transfer funds from his mobile phone, and have those funds collected by a third party at an ATM machine without the use of the physical debit Cards. Product leverages on the subscriber's mobile phone, the eTranzact platform, and ATM processor of partner banks (or payment ISO) to perform convenient funds transfer and collection for the end users.

	eTranzact PayOutlet™	A solution designed to allow Merchants collect payments from customers through the branches of eTranzact member banks.
	PocketMoni	A mobile payment solution designed to allow users conduct financial transactions anytime, anywhere, from a phone.
	eTranzact WebConnect	This is a solution developed to accept and process payment on behalf of the merchant. The solution is ported or integrated on eTranzact merchant website. eTranzact WebConnect API is unique because of its capability to accept all cards issued locally and international, cards like Visa and Master Cards. It has the ability to credit multiple account simultaneously online real-time.
Netplus Strategy & Sales Advisory Ltd	NetPIUSD \$otCom	Technology company with solutions in e-commerce, e-payment and digital trends. Product list includes: a) WebMallNG as Platform; b) WebMallNG (Platform-as-a-Service); c) Internet Banking Gateway; d) Digital Marketing Solutions; e) Logistics Solution; f) Church Collection Application and g) Mobile Point-of-Sale.
Saana Corporate Investment Management	SaanaPay"™	Payments Transaction Processing Platform (PTPP) and Electronic Bill Presentment and Payment (EBPP) solutions that facilitate payments transactions processing, and electronic bill generation and presentments in the online and offline spaces.
Infinity Segments Limited	Smart Card	Infiniti Systems offers a smart card service to organizations looking forward to strengthen their authorization system.
Flutterwave	Payments Platform	Underlying technology platform that allows businesses to make and accept payments anywhere in Africa. HQ in San Francisco with offices in Lagos, Nairobi, Accra, and Johannesburg. Simple API for processing payments across card, bank account and mobile money platforms in over thirty African countries. Flutterwave has processed over \$40 million in transactions to date for clients that include Uber, Paystack, SimplePay, Page Microfinance Bank, KCB Bank and Access Bank.
Paystack	Payments Platform	First Y Combinator-backed startup to originate from Nigeria.
Cellulant	Tingg	Payment Card Industry Data Security Standard (PCI DSS) certified payments platform is used by millions of Nigerians to access financial services. Businesses, banks and government agencies leverage on Tingg to perform the last mile payment for farmers and the unbanked in the rural areas.
	AgriKore	Customer relationship management (CRM) service that is used by governments, private sector companies, farmers and merchants across Africa and Asia to ensure end to end electronic payments in Agriculture and other consumer-facing value chains.

Figure 12: Payment Service Providers

RTGS	Central Bank of Nigeria Inter- bank Fund Transfer - CIFT			
Clearing House	Nigeria Inter- Bank Clearing & Settlement System			
Switches	ARCA Networks Limited	Chams Switch Limited	E-Revenue Gateway (ERG) Limited	ETranzact International Plc
(Commercial License) ³³⁴	Interswitch Nigeria Limited	Unified Payments Services Limited	Xpress Payments Solutions Limited	

 $^{^{334} \} Bema \ Seamless \ International \ Limited \ and \ CoralPay \ Limited \ have \ Approval \ in \ Principle \ (AIP).$

Payments Solution Service Provider (PSSP) with a Commercial License ³³⁵	ETranzact International Plc. PayU Payments Nigeria Limited	Flutterwave Technology Solutions Service SystemsSpecs Limited	Infiniti Segment Limited Unified Payments Services Limited	Interswitch Nigeria Limited Upperlink Limited	Parkway Projects Limited Venture Gardens Nigeria Limited	Payattitude Limited Xpress Payments Solutions	Cellulant Nigeria Limited
Payment Terminal	Brinq Africa Payment Solutions Ltd Grand Towers Plc.	Citiserve Limited Global Accelerex Limited	Computer Warehouse Group Globasure Technologies Ltd	Easy Fuel Limited Interswitch Limited	ETop Nigeria Limited Intellin Solutions Limited	Limited	
Service Providers (PTSP) Licensed ³³⁶	Netop Business Systems Limited	Netplus Strategy & Sales Advisory Ltd	Paymaster Limited	Transaction Payment Solution (TPS) Limited	Unified Payments Services Limited		
	Fidesic Nigeria Limited	ITex Integrated Services Limited	Xpress Payments Solutions Limited	Wi-pay Technologies Limited			
Card Schemes	American Express	MasterCard International	Visa International	Verve International			
Third Party Processors (TPP) Commercial License	Emerging Markets Payments (EMP) West Africa Limited	ETranzact International Plc.	Unified Payment Service Limited	Xpress Payment Solutions Limited			
Mobile Money Operator Bank Led (Commercial	Access Bank Plc.	Ecobank Nigeria	FCMB Limited	Fidelity Bank Plc.	First Monie		
License)337	Fortis Mobile Money	GTB Mobile Money	Stanbic IBTC Nigeria	Sterling Bank Plc.	Zenith Bank Plc.		
Mobile Network Operators	Cellulant Nigeria Limited	Chams Mobile	Contec Global Infotech Limited	Eartholeum Networks	ETranzact International Plc.		
Non-Bank Led (Commercial License) ³³⁸	Funds & Electronics Transfer Solution (FETS)	Hedonmark Management Services Limited	MKudi Limited	Pagatech	Parkway Projects Limited		
	PayCom Nigeria Limited	Teasy International Company Ltd	Virtual Terminal (VT) Network Limited	Visual ICT Limited	Zinternet Nigeria Limited		
Super Agents 339	Capricorn Digital Limited	Innovatives Limited	Interswitch Financial Inclusion services (IFIS) Limited				

ARCA Networks Limited, CoralPay Limited, e-Purse Systems Limited, Electronic Settlement Limited (ESL), Netplus Strategy & Sales Advisory Ltd, Paystack Payments Limited and Saana Corporate Investment Management Ltd have Approval in Principle (AIP).

336 3Gee Pay Limited, ARCA Networks Limited, Aurora Wireless Limited, BizzDesk Global Solutions Limited, e-Payment Plus Limited,

Funds and Electronics Transfer Solution (FETS) Limited, Soti Investment Ltd and Swiftlink NZ Global Services Limited have Approval in Principle (AIP).

Diamond Bank Plc., Sun Trust Bank Nigeria Ltd, Union Bank Limited and FCMB have Approval in Principle (AIP).

³³⁸ Aurora Wireless Ltd, Intellifin Solution Limited, MoneyBox Africa Limited, and Wi-Pay Technologies Limited have Approval in Principle (AIP).

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3-Line Card Management Limited and Inlaks Computer Limited have Approval in Principle (AIP).

ACRONYMS

A2F Access to Finance

ABC Automated Bulk Clearing
ACH Automated Clearing House
AFC Africa Finance Corporation
AIP Approval in Principle

AMATA Amalgamated Traders' Welfare Association

AML/CFT Anti-Money Laundering and Countering Financing of Terrorism

API Application Programming Interface

ARPU Average Revenue per User

ASOSCL Association of Shop Owners in Sura Complex Lagos

ATL Above The Line

ATM Automated Teller Machine
BVN Bank Verification Number
DisCos Distribution Companies
CBK Central Bank of Kenya
CBN Central Bank of Nigeria
CEO Chief Executive Officer

CGAP Consultative Group to Assist the Poor

CNG Compressed Natural Gas

CPD Consumer Protection Department (CPD)

CPSS Committee on Payment and Settlement Systems

CRM Customer Relationship Management

CSD Central Securities Depository

DC Direct Current

DFS Digital Financial Services
DMB Deposit Money Banks

EEP Energizing Economies Program

EFCC Economic and Financial Crimes Commission

EFT Electronic Funds Transfer

EFInA Enhancing Financial Innovation & Access

FSS Financial System Strategy G2P Government to Person

GOGLA Global Off-Grid Lighting Association

GPRS General Packet Radio Service

GSM Global System for Mobile Communications
GSMA Groupe Spéciale Mobile Association
IEA International Energy Association

IFIS Interswitch Financial Inclusion Services Limited

IMEI International Mobile Equipment Identity
IMSI International Mobile Subscriber Identity

IPN Instant Payment Notification

KEDCO Kano Electricity Distribution Company

KES Kenyan Shillings

KIHBS Kenya Integrated Household Budget and Expenditure Survey

KYC Know Your Customer LED Light-emitting Diode

LPFM Leadership in Public Financial Management

M2M Machine-to-Machine M4D Mobile for Development MFI Microfinance Institution
MMO Mobile Money Operator
MNO Mobile Network Operator

MSISDN Mobile Station International Subscriber Directory Number

N Nigerian Naira

NACS Nigerian Automated Check Clearing System NCC Nigerian Communications Commission

NCS Nigeria Central Switch

NDIC Nigeria Deposit Insurance Corporation
NAICOM National Insurance Commission
NEFT NIBSS Electronic Funds Transfer
NHRC National Human Rights Commission
NIBSS Nigerian Inter-Bank Settlement System
NIDES NIBSS Intra-Day Exposure System

NIP NIBSS Instant Payments
NPS National Payment System
OFI Other Financial Institution
OTP One Time Password
P2B Person to Business
P2P Person to Person
PAYG Pay-as-you-go

PCC Public Complaints Commission
PENCOM National Pension Commission
PIN Personal Identification Number

POS Point of Sale

PTSA Payment Terminal Service Aggregator PTSP Payment Terminal Service Provider

QR Quick Response

REA Rural Electrification Agency RTGS Real Time Gross Settlement

SEC Securities and Exchange Commission

SHS Solar Home System
SIM Subscriber Identity Module
SLA Service Level Agreement
SMS Short Message Service

SP&R Special Projects and Renewables Department (RIA)

STK SIM Tool Kit

STP Straight-through-Processing

USAID United States Agency for International Development

USSD Unstructured Supplement Service Code

USD \$ United States Dollar VAS Value Added Service

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